

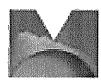
Expansion of Shek Wu Hui Sewage Treatment Works

Monthly EM&A Report (February 2006)

> March 2006 Report no: 01284R0072

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MAEDA

Expansion of Shek Wu Hui Sewage Treatment Works

First Quarterly EM&A Report (Dec 05 - Feb 06)

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Certified by Environmental Team Leader Sharifah Or



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1 Executive Summary

The expansion of Shek Wu Hui Sewage Treatment Works (SWHSTW) aims to increase the treatment capacity of the existing SWHSTW to cope with the increasing wastewater flows and loads as a result of the population growth in the catchment area of Fanling/Sheung Shui and the committed extension of sewerage system to unsewered areas. It is considered as a project constituting a material change to an exempted designated project under Schedule 2 of EIAO. Thus, the procedures under the EIAO have been followed and an Environmental Monitoring and Audit (EM&A) Programme has to be carried out. The present report documents the outcomes of the EM&A Works undertaken during February 2006.

Breaches of Action and Limit Levels

Noise

No non-compliance of action/limit level was recorded at all monitoring stations for noise during the reporting month.

1-hr TSP

No non-compliance of action/limit level was recorded at all monitoring stations for 1-hr TSP during the reporting month.

24-hr TSP

No non-compliance of action/limit level was recorded at all monitoring stations for 24-hr TSP during the reporting month.

Complaints Log

During this reporting month, no environmental complaint was received.

Notifications of Any Summons and Successful Prosecutions

During the reporting month, no notification of summons or successful prosecution was recorded.

Reporting Changes

There was no reporting change during February 2006.

Future Key Issues

The construction activities for the coming three months will include the construction of permanent H-piles, the setup of loading tests for the piles, cable / utilities diversion, the relocation of FeCl_3 tank, sheet piling work, sub-structure and superstructure construction and excavation works.



2 Introduction

2.1 **Basic Information**

Shek Wu Hui Sewage Treatment Works (SWHSTW) provides treatment to the wastewater generated from Fanling/Sheung Shui areas before discharge it into Mai Po Inner Deep Bay Ramsar Site through River Indus and Shenzhen River, thus helps protecting the water quality of River Indus, Shenzhen River and Mai Po Inner Deep Bay Ramsar Site. The expansion of SWHSTW aims to expand the treatment capacity of the existing SWHSTW to cope with the increasing wastewater flows and loads as a result of the population growth in the catchment area of Fanling/Sheung Shui and the committed extension of sewerage system to unsewered areas.

In accordance with Section 9(2)(g) of the Environmental Impact Assessment Ordinance (EIAO), the SWHSTW is an exempted designated project as the existing SWHSTW has been in operation before the EIAO came into effect on 1 April 1998. However, since the proposed works involve physical expansion and alternation to the existing SWHSTW (hereafter called "the Project") and may cause adverse environmental impacts if mitigation measures are not in place, it shall be considered as a project constituting a material change to an exempted designated project under Schedule 2 of EIAO. Hence the procedures under the EIAO have been followed. A Project Profile (PP) for direct application of the EP (Application No.DIR-121/2005) was approved by Environmental Protection Department (EPD) in May 2005 and an environmental permit (EP-218/2005) was obtained prior to the commencement of the expansion works.

Drainage Services Department (DSD) awarded the civil contract of the expansion of SWHSTW to Maeda Corporation (Maeda) in September 2005. Maeda appointed Hyder Consulting Limited (HCL) as the Contractor's Environmental Team (ET) during the construction period. CH2M-IDC Hong Kong Limited is the independent environmental checker (IEC). The construction contract commenced in September 2005 and the total construction period is approximately 36 months. The notified commencement date of work to the Director of EPD is 14 December 2005.

2.2 Management Structure and Project Organisation

The Engineer (DSD) is responsible for overseeing the construction works and ensuring that they are undertaken by the Contractor (Maeda) in accordance with the specification and contractual requirements. The Contractor shall report to the Engineer. The ET is employed by the Contractor and is responsible for conducting the EM&A programme. The IEC shall advise the Engineer on the environmental issues related to the Project.

The key personnel contact names and telephone number are summarised in Table 2-1. The project organisation is shown in Appendix 1.



Party	Position	Name	Telephone number
Project Proponent - DSD	Project Manager	Raymond Lee	2594 7457
	Engineer's Representative	Tim Tsoi	2594 7460
Contractor - Maeda	Site Agent	George Cheung	9268 1918
ET - Hyder	ET Leader	Sharifah Or	2911 2730
IEC – CH2M-IDC	IEC	David Yeung	2872 2934

 Table 2-1
 Key Personnel Contact Names and Telephone Number for the Project

2.3 Construction Programme

Construction programme of the Project is attached in Appendix 2.

2.4 Works Undertaken during the Reporting Month

Works undertaken during the reporting month included:

- The construction of preliminary pile (Portion 1);
- The construction of permanent pile (Portions 2 and 3);
- Cable / utilities division (Portion 2);
- Set up of loading tests for the piles (Portion 1); and
- Excavation work (Portions 1, 2 and 3).

2.5 Status of Environmental Permit/ Licence

The status of the Environmental Permit/Licence for the Project is shown below.

Permit/Licence	Application Date	Date of issue	Ref. No.	Valid Until
Environmental Permit	21 May 2005	16 June 2005	EP-218/2005	N/A
Notification was made to EPD pursuant to Section 3(1) of the Air Pollution Control (Construction Dust) Regulation (Form NA was submitted)	22 Sep 2005	N/A	N/A	N/A
Registration as a chemical waste producer	26 Sep 2005	4 Nov 2005	WPN: 5213- 624-M2446-06	N/A
Effluent Discharge Licence	11 Nov 2005	20 Dec 2005	Licence No.: W5/11287/1	19 Dec 2010
Application for Exemption Account for Disposal of Construction Waste	12 Dec 2005	Approved by EPD on 31 Dec 05	Application No.: RN/00134	25 Sep 2008
CNP (For 2 Generators operating between 0700 and	25 Nov 2005	12 Dec 2005	GW-RN0597-05	Cancelled with effect on

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Permit/Licence	Application Date	Date of issue	Ref. No.	Valid Until
2300 on General Holiday and between 1900 and 2300 on Any Day not being a General Holiday at Site Office)				13 Feb 2006

3 Environmental Status

3.1 Works Undertaken during the Month with Illustrations

The site has been subdivided into different Works Areas/Portions as illustrated in Appendix 3. The construction of preliminary pile was carried out at Portions 1. The construction of permanent pile was carried out at Portions 2 and 3. The setup of loading tests for the piles was carried out at Portion 1. Cable / utilities division was carried out at Portion 2 and the excavation of trial pits was conducted at Portions 1, 2 and 3.

3.2 Project Area, Environmental Sensitive Receivers and Monitoring Locations

The site is located at the existing Shek Wu Hui Sewage Treatment Plant, next to Chuk Wan Street. Project area, environmental sensitive receivers and monitoring locations are shown in Appendix 4.

4 Brief Summary of EM&A Requirements

4.1 Monitoring Parameters

4.1.1 Air Quality

During the construction phase impact monitoring, 1-hour and 24-hour Total Suspended Particulates (TSP) levels should be measured at the selected air monitoring locations in accordance with the EM&A Manual. These two parameters are aimed to indicate the impacts of construction dust on air quality.

4.1.2 Noise

The construction noise level should be measured in terms of the A-weighted equivalent continuous sound pressure level (L_{eq}) for 30 minutes. $L_{eq(30 \text{ min})}$ is used as the monitoring parameter for the period between 0700 and 1900 hours on normal

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weekdays. For all other time periods, three consecutive $L_{eq(5min)}$ are employed for comparison with the Noise Control Ordinance (NCO) criteria.

Other noise parameters such as L_{10} and L_{90} should also be obtained for reference.

4.2 Action and Limit Levels

4.2.1 Air Quality

The baseline monitoring results documented in the Baseline Monitoring Report for the Project (our report ref.: EA01284R0012) form the basis for derivation of the Action and Limit Levels for air quality impact monitoring. Appendix 5 shows the derived Action and Limit Levels for the Project. If the air quality criteria are exceeded due to the Project, the Event/Action Plan summarised in Table 4-3 should be triggered immediately.

4.2.2 Noise

The Action and Limit Levels for construction noise are defined in Appendix 5. If valid non-compliance of the criteria occurs, actions in accordance with the Event and Action Plan in Table 4-4 should be implemented. If construction works are undertaken during the restricted hours, a construction noise permit under NCO shall be obtained by the Contractor.

4.3 Event and Action Plans

The Event and Action Plans for air quality and noise monitoring are shown in Tables 4-3 and 4-4, respectively.

	ACTION				
EVENT	ET	IEC	ER	CONTRACTOR	
ACTION LEVEL					
Exceedance for one sample	 Identify source, investigate the causes of exceedance and propose remedial measures; Inform IEC and ER; Repeat measurement to confirm finding. 	 Check monitoring data submitted by ET; Check Contractor's working method. 	Notify Contractor.	 Rectify any unacceptable practice; Amend working methods if appropriate. 	
Exceedance for two or more consecutive samples	 Identify source, investigate the cause of exceedance and propose remedial measures; Inform IEC and ER; Advise ER on the 	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on 	 Confirm receipt of notification of exceedance in writing; Notify Contractor; Ensure remedial measures properly 	 Submit proposals for remedial to ER within 3 working days of notification; Implement the agreed proposals; Amend proposal if 	

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	ACTION					
EVENT	ET	IEC	ER	CONTRACTOR		
	 effectiveness of the proposed remedial measures; Repeat measurements to confirm findings; Increase monitoring frequency to daily; Discuss with IEC and Contractor on remedial actions required; If exceedance continues, arrange meeting with IEC and ER; If exceedance stops, cease additional monitoring. 	 possible remedial measures; Advise the ET on the effectiveness of the proposed remedial measures; Supervise Implementation of remedial measures. 	implemented.	appropriate.		
LIMIT LEVEL						
Exceedance for one sample	 Identify source, investigate the causes of exceedance and propose remedial measures; Inform IEC, ER, Contractor and EPD; Repeat measurement to confirm finding; Increase monitoring frequency to daily; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results. If exceedance stops, cease additional monitoring. 	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise ER on the effectiveness of the proposed remedial measures; Supervise implementation of remedial measures. 	 Confirm receipt of notification of exceedance in writing; Notify Contractor; Ensure remedial measures properly implemented. 	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; Amend proposal if appropriate. 		
Exceedance for two or more consecutive samples	 Notify IEC, ER, Contractor and EPD; Identify source, investigate the cause of exceedance and propose remedial measures; Repeat measurement to confirm findings; Increase monitoring frequency to daily; Carry out analysis of Contractor's working 	 Discuss amongst ER, ET, and Contractor on the potential remedial actions; Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise ER accordingly; Supervise the implementation of 	 Confirm receipt of notification of exceedance in writing; Notify Contractor; In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented; Ensure remedial measures properly implemented; If exceedance 	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; Resubmit proposals if problem still not under control; Stop the relevant portion of works as 		

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	ACTION					
EVENT	ET	IEC	ER	CONTRACTOR		
	 procedures to determine possible mitigation to be implemented; Arrange meeting with IEC and ER to discuss the remedial actions to be taken; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; If exceedance stops, cease additional monitoring. 	remedial measures.	continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	determined by ER until the exceedance is abated.		

Table 4-3 Event/ Action Plan for Air Quality Monitoring

EVENT	Action				
	ET	IEC	ER	CONTRACTOR	
Action Level	 Notify IEC and ER; Carry out investigation; Report the results of investigation to the IEC, ER and Contractors; Discuss with the Contractor and formulate remedial measures; Increase monitoring requrency to check mitigation effectiveness. 	 Review the analysed results submitted by the ET; Review the proposed remedial measures by the Contractor and advise the ER accordingly; Supervise the implementation of remedial measure. 	 Confirm receipt of notification of failure in writing; Notify Contractor; Require Contractor to propose remedial measures for the analysed noise problem; Ensure remedial measures are properly implemented. 	 Submit noise mitigation proposal to IEC; Implement noise mitigation proposals. 	
Limit Level	 Identify source; Inform IEC, ER, EPD and Contractor; Repeat measurements to confirm findings; Increase monitoring frequency to check mitigation effectiveness; Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; Inform IEC, ER and 	 Discuss amongst ER, ET, and Contractor on the potential remedial actions; Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; Supervise the implementation of remedial measures. 	 Confirm receipt of notification of failure in writing; Notify Contractor; Require Contractor to propose remedial measures for the analysed noise problem; Ensure remedial measures properly implemented; If exceedance continues, consider what portion of the work is responsible and instruct the 	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; Resubmit proposals i problem still not under control; Stop the relevant portion of works as determined by th ER until the exceedance is abated. 	

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EVENT	Action									
	ET	IEC	ER	CONTRACTOR						
	 EPD the causes and actions taken for the exceedances; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; If exceedance stops, cease additional monitoring. 		Contractor to stop that portion of work until the exceedance is abated.							

 Table 4-4
 Event/ Action Plan for Noise Monitoring

4.4 Environmental Mitigation Measures and Requirements

The recommended measures for mitigating air quality, water quality, noise, waste and all other possible environmental impacts due to the construction works have been stated clearly in the EM&A Manual. The details of the measures implemented by the Contractor are shown in Appendix 6.

5 Implementation Status of Environmental Protection and Pollution Control/ Mitigation Measures

The status of the mitigation measures implemented by the Contractor is listed in Appendix 6.

6 Monitoring Results

6.1 Monitoring Methodology

6.1.1 Air Quality

1-hr and 24-hr TSP monitoring works were undertaken by the ET using high volume samplers (HVS). The sampling procedures followed the standard sampling method as set out in High Volume Method for Total Suspended Particulates, Part 50 Chapter 1 Appendix B, Title 40 of the Code of Federal Regulations of the USEPA.

During the sampling, dust laden air was drawn through a HVS fitted with a conditioned, pre-weighted filter paper, at a controlled rate. After sampling for 1 hour and 24 hours, the filter paper with retained particles was collected and returned to the laboratory for drying in a desiccator followed by accurate weighing. Respective 1-hour and 24-hour TSP levels were calculated from the ratio of the mass of particulates retained on the filter paper to the total volume of air sampled.

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The HVSs were equipped with an electronic mass flow controller and calibrated against a traceable standard at regular intervals. All equipment, calibration kit and filter papers were clearly labelled.

The sampling procedures and specifications were the same for 1-hour and 24-hour baseline air quality monitoring except the sampling duration. The specifications were as follows:

- 0.6-1.7 m³/min (20-60SCFM);
- Equipped with a timing/control device with +/- 5 minutes accuracy for 24 hours operation;
- Installed with elapsed time meter with +/- 2 minutes accuracy for 24 hours operation;
- Capable of providing a minimum exposed area of 406 cm² (63in²);
- Flow control accuracy: +/- 2.5% deviation over 24-hr sampling period;
- Equipped with a shelter to protect the filter and sampler;
- Incorporated with an electronic mass flow rate controller or other equivalent devices;
- Equipped with a flow recorder for continuous monitoring;
- Provided with a peaked roof inlet;
- Incorporated with a manometer;
- Able to hold and seal the filter paper to the sampler housing at horizontal position;
- Easy to change the filter; and
- Capable of operating continuously for a 24-hour period.

Relevant environmental data including temperature, pressure, weather conditions, elapsed-time meter reading for the start and stop of the sampler, identification and weight of the filter paper, and other special phenomena observed and work progress of the concerned site were also recorded.

Filter papers of size 8"x10" were labelled before sampling. They were inspected clean with no pin holes and conditioned in a humidity-controlled chamber for over 24-hr and be pre-weighed before use for the sampling.

After sampling, the filter papers loaded with dust were kept in a clean and tightly sealed plastic bag, and then returned for reconditioning in the humidity controlled chamber followed by accurate weighing by an electronic balance with a readout down to 0.1 mg. All the collected samples would be kept in a good condition for 6 months before disposal.

The weight of filter paper was measured by a HOKLAS accredited laboratory.

6.1.2 Noise

Weatherproof logging sound level meters which comply with the International Electrotechnical Commission Publication 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications were used to measure the construction noise at the designated



monitoring locations. Noise parameters of the A-weighted levels L_{eq} , L_{10} and L_{90} were measured with a sampling period of 5 minutes throughout the monitoring. The average of six consecutive 5-minute readings was used to provide $L_{eq(30 \text{ minutes})}$ for non-restricted hours. A facade correction of 3dB(A) would be applied to all free field measurements.

During the impact monitoring, information such as date, weather condition, equipment used, measurement results and major noise sources were recorded on the field data record sheet. Noise measurements would not be made in fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed would be checked with a portable wind speed meter capable of measuring wind speed in m/s. All measurements were recorded to the nearest 0.1dB(A).

6.2 Name of Laboratory, Types of Equipment Used and Calibration Details

6.2.1 Name of Laboratory

Filter papers used for air quality monitoring were sent to ALS Environmental, a HOKLAS accredited laboratory, for weighing. Other sampling and analytical works were conducted by Hyder Consulting Limited, the ET.

6.2.2 Types of Equipment Used and Calibration Details

HVS - Model GBM2000H1, manufactured by Anderson Instruments Inc., was used for TSP monitoring. It complies with the USEPA specifications in Appendix B Part 50 - Reference Method for the Determination of Suspended Particulate matter in the Atmosphere (High-Volume Method) of the Code of Federal Regulation dated July 1, 1991. Initial calibration of dust monitoring equipment was conducted upon installation and prior to commissioning. One point flow rate calibration would be carried out every two months. Five-point calibration would be carried out every six months. All the calibration data were converted into standard temperature and pressure condition.

Orific HVS Calibration Kit model G2523 was used for the calibration of HVSs. Calibration of calibration kit would be carried out annually. Appendix 7 presents the monitoring equipment calibration record.

For noise monitoring, Bruel & Kjaer (B&K) Precision Integrating Sound Level Meters of Type 2238 in compliance with the International Electrotechnical Commission Publication 651: 1979 (Type 1) and 804: 1985 (Type 1) Specifications were used.

Prior to and following each noise measurement, the accuracy of the sound level meter was checked using an acoustic calibrator (B&K Type 4230) generating a known sound pressure level at a known frequency. Measurements were considered as valid only if the calibration level from before and after the noise measurement agree to within 1dB. All sound level meters and calibrators would be calibrated annually. Appendix 7 presents the monitoring equipment calibration records.

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Equipment Type Manufacturer M		Model	Serial Number/I.D.
Sound Level Meter	B&K	Туре 2238	2448529
Sound Level Meter B&K		Туре 2238	2285726
Sound Level Calibrator B&K		Туре 4231	1770806
High Volume Sampler	Anderson	GBM 2000 H1	0134
High Volume Sampler Anderson		GBM 2000 H1	1101
Orific HVS Calibration Kit	Tisch Environmental	G2523	517N

Table 6-5 summarises the types of monitoring and calibration equipment.

 Table 6-5
 Monitoring Equipment

6.3 Parameters Monitored

Parameters monitored are described in Sections 4.1.1 and 4.1.2.

6.4 Monitoring Locations

There are two designated air quality monitoring locations identified in the EM&A Manual. Due to the access constraint, alternative monitoring locations were selected and approved by ER, IEC and EPD prior the commencement of monitoring. These alternative locations for air quality monitoring are summarised in Table 6-6 and shown in Appendix 4.

Monitoring Station ID	Name of Premises	Monitoring Location
CAM1a	San Po Street Pumping Station	Ground floor level
CAM2a	Sheung Shui Heung Floodwater Pumping Station	Ground floor level

Table 6-6 Air Quality Monitoring Locations

There are two designated noise monitoring locations identified in the EM&A Manual and their locations are described below and shown in Appendix 4.

Monitoring Station ID	Name of Premises	Monitoring Location				
NM1	Wai Loi Tsuen	1.2m above ground				
NM2	Temporary Domestic Structure	1.2m above ground				

Table 6-7 Noise Monitoring Locations



6.5 Monitoring Date, Time, Frequency and Duration, Weather Condition and Other Factors

Monitoring frequency for 1-hr TSP and 24-hr TSP is 3 times every 6 days and once every 6 days, respectively. One set of noise measurements will be conducted between 0700 and 1900 on normal weekdays at each monitoring station on a weekly basis, when noise-generating activities are underway. Monitoring date, time and duration for noise and air quality monitoring and all other factors related to the monitoring result, such as weather condition, are listed in the following tables.

Station	Date	Time	Duration	Weather Condition
1-hr TSP				
	2-Feb-06	0936-1235	3 X 1 hour	Fine
	7-Feb-06	0923-1230	3 X 1 hour	Fine
CAM1a	13-Feb-06	1005-1307	3 X 1 hour	Sunny
	18-Feb-06	1023-1328	3 X 1 hour	Rainy
	24-Feb-06	1330-1630	3 X 1 hour	Cloudy
	2-Feb-06	0945-1245	3 X 1 hour	Fine
	7-Feb-06	0937-1244	3 X 1 hour	Sunny
CAM2a	13-Feb-06	1015-1315	3 X 1 hour	Sunny
	18-Feb-06	1030-1337	3 X 1 hour	Rainy
	24-Feb-06	1342-1643	3 X 1 hour	Cloudy
24-hr TSP	·			·
	2-Feb-06	1235-1235	24 hours	Fine
	7-Feb-06	1231-1231	24 hours	Fine
CAM1a	13-Feb-06	1415-1415	24 hours	Sunny
	18-Feb-06	1331-1331	24 hours	Rainy
	24-Feb-06	1630-1630	24 hours	Cloudy
	2-Feb-06	1247-1247	24 hours	Fine
	7-Feb-06	1245-1245	24 hours	Sunny
CAM2a	13-Feb-06	1425-1425	24 hours	Sunny
	18-Feb-06	1340-1340	24 hours	Rainy
	24-Feb-06	1643-1643	24 hours	Cloudy

Table 6-8

Sampling Schedule of Air Quality Monitoring



Station	Date	Time	Duration	Weather Condition
	2-Feb-06	1000-1030	30 minutes	Fine
NM1	7-Feb-06	0945-1015	30 minutes	Fine
	13-Feb-06	1030-1100	30 minutes	Sunny
	24-Feb-06	1300-1330	30 minutes	Cloudy
	2-Feb-06	1100-1130	30 minutes	Fine
	7-Feb-06	1045-1115	30 minutes	Fine
NM2	13-Feb-06	1125-1155	30 minutes	Sunny
	24-Feb-06	1450-1520	30 minutes	Cloudy

 Table 6-9
 Sampling Schedule of Noise Monitoring

6.6 Results and Graphical Plots of Monitoring Parameters

Air quality monitoring results of 1-hour and 24-hour TSP are summarised in Table 6-10 and detailed in Appendix 8. Graphical plots of the monitoring results are also provided in Appendix 8.

Station	Date	Measured Lo	evel (µg/m³)	Action/Limit	Level (µg/m³)
		1-hr TSP	24-hr TSP	1-hr TSP	24-hr TSP
CAM1a		128.4		342.7/500	203.3/260
	2-Feb-06	144.6	83.8		
		133.8			
		155.5		_	
	7-Feb-06	154.8	111.0		
		117.0			
		196.3		_	
	13-Feb-06	146.9	177.2		
		114.4			
		306.3			
	18-Feb-06	87.1	42.2		
		75.7	1		

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Station	Date	Measured Le	evel (µg/m³)	Action/Limit	Level (µg/m³)		
		1-hr TSP	24-hr TSP	1-hr TSP	24-hr TSP		
		202.5					
	24-Feb-06	139.5	104.7				
		136.5					
		75.3					
	2-Feb-06	65.8	57.6				
		81.5	_				
		87.4		_			
	7-Feb-06	85.5	63.8				
		54.2	_				
		81.3		_			
CAM2a	13-Feb-06	77.8	109.0	340.2/500	201.6/260		
		66.9	_				
		178.0					
	18-Feb-06	33.3	30.8				
		57.1					
		167.8					
	24-Feb-06	90.8	68.6				
		64.6					

* Shaded area indicates an exceedance of Action/Limit Level.

Table 6-10 Air Quality Monitoring Results

Noise monitoring results are summarised in Table 6-11 and detailed in Appendix 8. Graphical plots of the monitoring results are also provided in Appendix 8. As all monitoring was conducted at free field condition, a facade correction of 3dB(A) was applied to each of the noise measurements.

Station	Date	Measu	Limit Level for		
		L _{90(30min)}	L _{10(30min)}	L _{eq (30min)}	L _{eq(30 min)} , dB(A)
	2-Feb-06	54.4	61.4	58.8	
NIN 44	7-Feb-06	61.6	65.1	63.6	75
NM1	13-Feb-06	56.7	63.4	61.3	- 75
	24-Feb-06	55.9	62.4	60.4	
	2-Feb-06	49.4	53.6	52.0	
NM2	7-Feb-06	47.5	50.9	49.7	75
INIVIZ	13-Feb-06	-06 49.1 53.7		51.9	- 75
	24-Feb-06	52.7	61.9	59.3	

Note: (1) Shaded area indicates an exceedance of Limit Level.

(2) A facade correction of 3dB(A) was applied to each of noise measurements.

Table 6-11 **Noise Monitoring Results**

6.7 Factors Which Might Affect the Monitoring Results

Dust from other sources such as roads with the movement of heavy vehicles in the vicinity of the monitoring stations would affect the air guality monitoring results.

6.8 QA/QC Results and Detection Limit

The quality assurance (QA) / quality control (QC) results and detection limit are shown in Appendix 9.

Non-compliance, Complaints, Notifications of Summons 7 and Successful Prosecutions

7.1 Non-compliance of Action and Limit Levels

No non-compliance of Action or Limit Level was recorded for air quality and noise monitoring.

7.2 **Complaints Received**

In case of an environmental complaint received, all related parties should follow the complaints response procedures specified in the EM&A Manual.



During this reporting month, no environmental complaint was received. Cumulative number of environmental complaint is shown in Appendix 10.

7.3 Notifications of Summons and Successful Prosecutions

No notification of summons or successful prosecution was recorded during the reporting month. The cumulative number of notifications of summons and successful prosecutions are shown in Appendix 10.

7.4 Review of the Reasons and Implications of Non-compliance, Complaints, Summons and Prosecutions

7.4.1 Non-compliance of Acton/Limit Level

No non-compliance was recorded during the reporting period.

7.4.2 Complaints, Summons and Prosecutions

No complaints, summons and prosecutions were recorded during the reporting period.

7.5 Site Inspection

Weekly site inspections were carried out on 3, 6, 15 and 24 February 2006. The findings of the site inspections and appropriate mitigation measures were recorded in the site inspection checklists.

The observations raised during the site inspections, corresponding recommendations and rectification status are summarised in Table 7-12.

Inspection Date		Deficiencies		iciencies Recommendation Status		Status		Note / Reminder		
3-Feb-06	1. 2.	Oil leakage from drilling rig was observed on site. The cap of water	1. 2.	Proper maintenance works should be carried out. Provision of cap is	1. 2.	The plant was checked and was filled before operation. The inlet of water	1.	Equipment oil and lubricant replacement should be performed in a bunded area only.		
		barrier on site was missing.		required to avoid mosquito breeding.		barrier was sealed.		After that, all oil drum and lubricant should be placed in a bunded storage area.		
6-Feb-06	1. 2.	Broken gravel bags were found in the U channels close to manhole which is near the slaughter house. It was observed that there was oil stain	1.	The Contractor was recommended to remove the gravel in the U channels and replace the broken gravel bags with new one.	1. 2.	The gravel bag in the U-channels was removed and the gravel bag along the U-channel was grouted by cement. The oil stain and	1.	There was no wastewater discharge. However, the Contractor was recommended to provide adequate treatment facilities to cater the surface run-		
		next to the diesel cap	2.	The Contractor was	Ζ.	contaminated soil		cater the surface ru		

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Inspection Date	Deficiencies	Recommendation	Status	Note / Reminder
	of the air compressor.	recommended to remove the contaminated soil and provide a drip tray to prevent oil spillage.	were removed.	off during the wet season. 2. No fugitive dust emission was observed during the site inspection. However, the Contractor was reminded to water the bare ground frequently during dry days.
15-Feb-06	1. No observation.	1. N.A.	1. N.A.	 Unloading of cement bag was observed during the inspection. The Contractor was reminded to cover the cement bags after unloading.
				2. No proper enclosure was provided for cement mixing works. The Contractor was reminded to shelter the cement mixing machine by tarpaulin sheet completely. (Action was done immediately.)
24-Feb-06	 Accumulated water was observed in drip tray at Portion 2. 	 Removal of stagnant water or larvicide application should be conducted to prevent 	 Larvicide was applied to the water in drip tray properly. 	1. Nil
	 Wetsep and sedimentation tanks at Portion 2 were full of mud. 	 The Contractor was reminded to remove the mud more frequently. 	 Mud and silt in sedimentation tank and Wetsep were removed. 	

 Table 7-12
 Summaries of Site Inspections and Recommendations

The site audit conducted by IEC was carried out on 17 February 2006 and the Contractor has undertaken appropriate actions in response to the IEC's findings.

There was no outstanding issue or deficiency for the observations arising during the weekly site inspections. However, the Contractor has been reminded to provide adequate wastewater treatment facility, increase the water spraying, provide proper enclosure for cement mixing work and cover the cement bags after unloading.



8 Waste Management Status

According to the information provided by the Contractor, the following waste materials were generated during the reporting month:

- Inert C&D materials 104 m³; and
- General Refuse 32.5 m³.

C&D materials were disposed of at Tuen Mun Area 38 public fill. General refuse was collected and disposed of at NENT Landfill properly. No chemical waste was produced during the reporting month. Trip ticket system was implemented and disposal records were in order on site. The Waste Management Plan was followed.

9 Future Key Issues

The construction activities for the coming three months are summarized below:

- The construction of permanent H-piles
- The loading test for the piles
- Cable / utilities diversion
- The relocation of FeCl₃ tank
- Excavation work
- Sheet piling work
- Sub-structure and superstructure construction

The upcoming EM&A schedule for the future three months is shown in Appendix 11.

10 Comments, Recommendations and Conclusions

EM&A works have been undertaken in February 2006 for the Project based on the requirements set in the EM&A Manual.

All monitoring equipments have been calibrated and all monitoring protocols have been carried out properly according to the EM&A Manual.

No valid exceedance of Action/Limit Level was recorded during the reporting month.

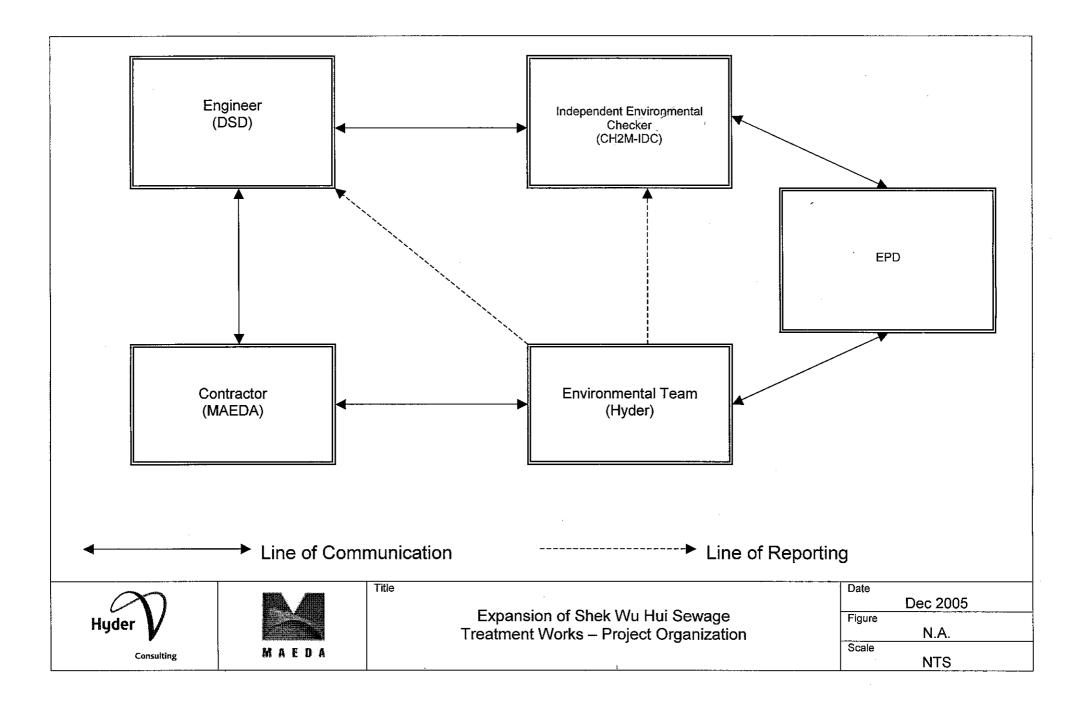
No compliant, notification of summons or successful prosecution was recorded during the reporting month.

Four weekly site inspections were carried out during the reporting month. In response to the observations raised by ET, the Contractor has undertaken follow-up actions to rectify the condition.



Appendix 1

Project Organization





Appendix 2

Construction Programme

Start Date Finish Date	26/09/05 24/09/08	Early bar	D5DA Contract No. DC/20	05/01	1 of 5	Date			Revisi	ion		Ch	ecked	Approv	ved
Data Date Run Date	26/09/05 31/10/05 12:36	Progress Bar Critical Activity	EXPANSION OF SHEK SEWAGE TREATMENT W UPGRADING OF TING KOK ROAD	ORKS AND	0.5										
Activity	Activity	Orig Early	Early	2005		006	0.262-2			07			200	8	
IÞ Shek Wu Hui	Description	Dur Start	Finish		AMJ	JAIS	OND		AMJ	JAS					
Contract No. D	C/2005/01														
Contract Dates															
D004 Comn Air Blower Hou	nencement of the Works se No.2	0 26/09/05	 1971 - E. M. Martin, address descendings for statistic 1971 - E. M. Martin, address descendings for statistic												+
D014 Comp	letion of Section 1 of the Works	670 26/09/05	27/07/07				arta la co Asserta		000000111	 	Ĺ				
BN01: Prelimin Area A	aries		nonadodenego contrato contrato mar												
DC0104 The E	ingineer's Site Accommodation	40 17/10/05	01/12/05 DC0132*	5:3:3											İ
Area B															
DC0112 Contr Area A, B & C	actor's office erection	11 18/10/05	29/10/05 D004+												-
DCD122 Hoard	ling erection	12 24/10/05	05/11/05 D004*	Ø											
Portion 2															
	learance ng erection		15/10/05 D004* 05/11/05 DC0132*	8											
BN02: Section Air Blower Hou															
Foundation	rks (Predrilling & reporting)	40 25/10/05*	09/12/05 DC0132												
DC0206 Perma	ninary H-piles (1nos.) ament H-piles (21nos.)	90 13/12/05	26/01/06 DC0202* 28/03/06 DC0204*												
DC0210 Utility	Load Test (1nos.) Detecton and Diversion	30 29/03/06 100 27/09/05													
	/ation, Grid 1 - 6/K-L (5.3mPD)		10/05/06 DC0208*, DC0210 23/05/06 DC0212*, DC0216*												
Substructure	vation Grid A-K (5.3mPD) ps, 6aos. Grid 1-3/K-L + Ground Bear		18/05/06 DC0216*												+
DC0224 Pileca	ups, 6nos. Grid 4-6/K-L + Ground Bea ups, 6nos. Grid 4-6/K-L + Ground Bea ups, 6nos. Grid 4-6/F-J + Ground Bea	ms 6 19/05/06	25/05/06 DC0222* 01/06/06 DC0222*												
DC0228 Pileca	ips, 6nos. Grid 4-6/A-F + Ground Bea slabs, Grid K-L	rns 9 02/06/06	13/06/06 DC0226* 20/06/06 DC0224*												
DC0236 Struct	slabs, Grid 4-6/A-K ural works up to ground level	30 21/06/06	08/07/06 DC0232* 26/07/06 DC0232*												
Superstructure	nd floor slab		19/08/06 DC0220*, DC0236*												+
DC0244 Concr	tural framing & slab at lev 11.80mPD rete structure up to roof		30/09/06 DC0238* 30/10/06 DC0242*												•
[1] J. P. D. Dester, G. Dester, J. M. M. Market, and J. Market, and J	al Finishes	60 31/10/06	10/01/07 DC0244*					33							
81	ork & drainage/ducts in structures	92 27/07/06	13/11/05 DC0236*			PERMIT							· · .		
,	s. nal finishes	60 31/10/06	10/01/07 DC0244*				(manual)	9							_
	nal Works red Walkway		13/03/07 DC0240*, DC0252* 07/07/07 DC0260*						•••••						
Key Date															Ť
	letion of the Section 1 2 of Works	0	07/07/07 D004*, DC0262*							•					+
Flow Division P	ump Pit Nos: 1														
	enent Mini-pile (4nos.)	91 27/09/05 24 01/02/06*								ļ					
Earthworks	I temporary retaining wall (sheetpile)		06/04/06 DC0334, DC0360, DC0364*		•										T
DC0370 Demo DC0372 Excav	lition of existing pipes No.1, temp clos vation & temp. supporting	sure 1 07/03/06	07/03/06 DC0368* 20/04/06 DC0366*, DC0368*	1	m										
Structure DC0376 Pileca	11.1.5	30 21/04/06	26/05/06 DC0372*						-						
External Works	rete works & pipework		03/07/06 DC0376*												╉
DC0384 Instal	illing, remove temp. retaining wall lation, handrail/plate/ladder		26/07/06 DC0378* 22/08/06 DC0380*, DC0382*												.
Flow Division P Foundation															
Earthworks	olling, Pit 2, 4 nos.		28/02/06 DC0330*												+
DC0344 Demo	lation of temp. retaining wall alition of existing pipes No.2, temp. clo	sure 1 02/08/06	22/08/06 DC0382* 02/08/06 DC0342*, DC0368			1									
Structure	vation & lamp, supporting		27/09/06 DC0340*, DC0342*, 21/10/06 DC0346*												+
DC0386 Pilece DC0388 Conc External Works	aps rete work & pipework		21/10/06 DC0346* 21/10/05 DC0348*				[-		-
DC0390 Backf	fill to Pit 2, remove temp. retaining wal lation, handrail/plate/ladder		25/11/05 DC0388* 31/12/05 DC0390*	6253 1255									1		

Sheet 2 of 5

Activity	Activity	Orig Ear		Predecessors	2005 EOND	JEM	20 A M J	08 JAS	OND	JIFIM	2 A M J	007 JAS	OND	JFM	2001 A M J	JAS	0
ID DC0394	Description Pipeworks	Dur Sta 120 02/01	/06 23/05/06	DC0392*	បំព័រមែកការព		ditida di da Galeria	iinin innin	ntiinnnii	ាមអង់រំណំ	ունուտնե	արորույ	i i i i i i i i i i i i i i i i i i i	មិនជាមិជា	0.0000000 	(iii)niini 	i i i i i i i
DC0396 DC0398	Pipelaying & connection, Pit 1 to 2 Excavate trench		/06 16/02/06 /06 26/04/06				HE I										
DC0400 DC0402	Pipelaying & connection Pit 2 to Bioreactor No.5 Backfill & reinstate trench		/06 27/06/06				CARACTERISTICS Editority										_
a service a service se	r No.5 Structure	1 - 1										1					t
Foundatio	n Gl works (predrilling & reporting)	35 20/10	/05* 29/11/05	• • • • • • • • • • • • • • • • • • •						ł							
DC0304 DC0306	Preliminary H-piles (1no.) Permanent H -piles (21nos)		/05 04/01/06 /05 17/03/06		1332 1372	3					ĺ	ĺ					
DC0308	Proof Load Test (1nos.)		/06 22/04/06			Œ				ļ			ļ	ļ			
Earthwork DC0312	s Install temp. retaining wall (sheetpile)	30 18/03	/06 22/04/06	DC0306*		E	m				ľ						
DC0314 DC0316	Excavation & temp. supporting, 1/2 depth, north Excavation & temp. supporting, remain, north		/06 29/05/06					1									ĺ
DC0318	Excavation & temp. supporting, 1/2 depth, south	20 06/07	/06 28/07/08	DC0316*													
DC0320 Substruct	Excavation & temp. supporting, remain, south	30 23/08	/05 2//09/06	DC0316, DC0342*								1				<u> </u>	╞
DC0322 DC0324	Pilecaps, 32nos. Bay1-4 Pilecaps, 24nos. Bay5-6		/06 21/08/06	DC0316* DC0320*, DC0346*													
DC0326	Base slab, Bay 1 & 3	40 23/10	/06 07/12/06	DC0322, DC0324*,													
DC0328 DC0338	Base slab, Bay 2 & 5 Base slab, Bay 4 & 6		/07 14/02/07	DC0324, DC0326* DC0328*													
Superstru DC0352	cture Wall, Bay 4&8	30 15/02	/07 21/03/07	DC0338*													
DC0354	Wall, Bay 2&5	25 01/03	/07 29/03/07	DC0352*													
DC0356 DC0358	Wall, Bay 1&3 Remaining structural work		/07 05/05/07 /07 19/06/07														
E&M insta DC0374	Ilation Plumbing & pipework, incl. testing	80 08/17	/06 13/03/07	DC0326*													
DC0404	Place alum. flooring & install handrailing		/07 18/04/07			.											<u> </u>
External M DC0410	Vorks Backfill, remove temp. retaining wali		/07 07/05/07									}					1
DC0412 DC0414	Water retaining test Concrete butterfly pit & flowmeter chamber 5&6		/07 28/07/07 /07 09/06/07								E CONTRACTO	1000					
DC0416	Plumbing & pipework, dumy pipe provided by other	28 11/06	/07 12/07/07	DC0414*							Ĩ						
DC0418 Final Sedi	Place multi-part/precast cover mentation Tank Distribution Chamber	20 13/07	/07 04/08/07	DC0416*								1282	· · · ·				┢
E&M insta	llation	99 20/00	107 10/07/07	DC0358*							,				-		1
DC0422 DC0426	Internal installation, intermediate platform etc Place alum. flooring & install handrailing		/07 08/08/07	DC0422*													
DC0428 DC0430	Pipelaying, manholes & connection Reinstatement around area		/07 20/08/07 /07 25/09/07														
Key Date		A									1						Γ
DC03K2	Completion of the Section 2	0	25/09/07	DC0418, DC0430*									•				
32	ction 3 of Works		Half Chulles'	a da la dalla più da privetto de-													
Final Sedi Foundatio	mentation Tank Nos. 9 n																
DC0432 DC0434	GI Works (predrilling & reporting) Preliminary H-piles (1nos)		/05 17/12/05														
DC0436	Permanent H-piles, 21 nos.	120 21/12	/05 12/05/06	DC0434*							1						
DC0438 Earthwork	Proof Load Test (1 nos) S	30 13/05	/06 17/06/06	000436"													+
DC0442 DC0444	Install temp, retaining wall (sheetpile) Excavation		/06 12/07/06														
Substruct	<i>Ure</i>								20 20 20 10 10 10 10 10 10 10 10 10 10 10 10 10					1			1
DC0431 DC0433	Pipelaying, surrounding Pilecaps/Base slab, cast in pipe		/06 14/11/06 /06 13/01/07					E	PLANE R								
DC0435 DC0437	Wall concrete Internal finishing	60 15/01	/07 24/03/07 /07 12/05/07	DC0433*						i				1			
DC0439	Water retaining test	40 14/05	/07 29/06/07	DC0437*		ļ]					E	3		L			1
DC0441 Final Sedi	Backfill & remove temp, retaining wall mentation Tank Nos, 10	40 30/06	/07 15/08/07	L-0438-													+
Foundatio	n	40140#2	/05 03/02/08	IDC0432*	5	500700											
DC0456 DC0458	Preliminary H-piles (1 nos) Permanent H-piles (41 nos.)	120 13/05	/06 03/10/06	DC0436*, DC0456				NATA CILCUCTORIC									
DC0460 Earthwork	Proof Load Test (1nos)	45 04/10	/06 25/11/06	DC0458*		$\left \right $											\vdash
DC0462	Install temp. retaining wall (sheetpile)		/06 24/07/06 /06 03/10/06														
	Excavation ure									1							╞
DC0466 DC0468	Pipelaying, surrounding Pilecaps, Base slab, cast in pipe		/06 13/12/06 /06 23/02/07														{
DC0470	Wail concrete	60 24/02	/07 05/05/07	DC0468*					1						1		
DC0472 DC0474	Internal finishing Water retaining test	40 25/06	09/08/07	DC0472*								d asa	 	<u> </u>			
DC0476 BN05: Se	Backfill & remove temp. retaining wall ction 3 of Works			DC6470, DC0474*							<u> </u>	CHERREN	1			<u> </u>	+
MARINER AND COMPANY	Pumping Station - Main Station/Switch Rr															ļ	
Foundatio	n GI works (predrilling & reporting)	26 14/11	/05* 13/12/05	neden og døre blik ber 124 blik St						ļ							
DC0504	Permanent H-pile (6nos.)			DC0206*, DC0502			erer da			1						<u> </u>	╞
Earthwork	(s Install temp. retaining wall (sheetpile)	30 22/00	y06 27/07/06	5 DC0504*			Ę					-					
DC0508	Excavation		//06 07/10/06													<u> </u>	+
Substruct	Pilecaps/tie beams		0/06 15/11/06														
DC0518 Sugerstru	Concrete structure up to Lev. 7.4mPD	30 16/11	1/08 20/12/06	6 DC0516*		-						-					+
DC0520	Concrete structure up to roof	30 21/12	2/08 26/01/07	DC0516, DC0518*									ļ	<u> </u>		<u> </u>	-
E&M insta DC0522	Illation Pipework/plumbing & opening	30 21/12	2/06 26/01/07	7 DC0518*													
	· · · · · · · · · · · · · · · · · · ·											•					_

Activity ID DC0524	Activity Description Internal/External finishes	Orig Dur 40	Early Start 14/05/07	Early Finish 29/06/07 DC0	Predacessor 1437*, DC0522	S	2005 OND			JAS	JEM:				SUP M	2008 AlMisti Tenetian	JIAIS	ļot unin
Switch Ro DC0532 DC0534 DC0536	om Permanent Mini-pile (Bnos.) Excavation, blinding, pilecaps Structural works	30	12/10/06	20/03/06 DC0 15/11/06 DC0 20/12/08 DC0	508*, DC0532			F										
	InternaVExternal finishing Vorks External manholes/pits construction Pipelaying, surround & connection	60	10/08/07	09/08/07 DC0 22/10/07 DC0 09/10/07 DC0	1538*						 							
	Backfill & reinstatement		10/10/07	24/11/07 DC0	9476, DC054200													
Sludge Pr	Completion of the Section 3 ction 4 of Works ess House Extension	0		24/11/07 DC0	441, DC056200									•				
Foundatio DC0610 DC0612 DC0614	GI works (pre-drilling & reporting) Preliminary mlnI piling (1nos) Permanent Mini-piles (17nos.)	30 : 100 (31/12/05 03/01/06	30/12/05 DC0 03/02/06 DC0 29/04/06 DC0	610* 612*				-									
DC0816 DC0618 <i>External</i> M DC0622	Proof load test Utility Diversion <i>Vorks (FeCI3 tank relocation)</i> Construction new FeCI3 storage tank	150	14/11/05	05/06/06 DC0 09/05/06 DC0 04/08/06 DC0	610*		better to a											
DC0624 Earthwork DC0630 DC0632	Relocate the FeCI3 storage tank	30	22/09/06	21/09/06 DC0 27/10/06 DC0 01/12/06 DC0	624*													
DC0634 DC0536 Superstrue	Excavation & pilecaps, 10 nos. Backfill & compaction cture	30 (30 (02/12/06 09/01/07	08/01/07 DC0 12/02/07 DC0 12/04/07 DC0	632* 634*													
DC0638 DC0840 Internal Fl DC0644	internal finishes works & openings	50 30	13/04/07 13/06/07	12/06/07 DC0 17/07/07 DC0	638* 640*													
DC0646 E&M Insta DC0648 External Fi	Pipework & ducting			26/09/07 DC0	644, DC0648, D 1638*	C0650*												
DC0650 Sludge Cc <i>Foundatio</i> DC0866				28/07/07 DC0								999 1997 1997				-		
DC0670 DC0672 Earthwork		60 30 (14/12/05 01/05/08	22/02/06 DC0 05/06/06 DC0	666* 614*				3250									
DC0676 DC0678 DC0680 Structure	Install temp. retaining walls (sheetpile) Excavation Backfill & rockfill underneath pit	30 40	13/06/07 20/12/07	12/07/06 DC0 17/07/07 DC0 06/02/08 DC0	640*, DC0676 658*					•			3	B				_
DC0682 DC0684 External M DC0656	Concrete works Installation: handralling/ladders/mesh etc. Korks: Pipelaying of pipeline No.11 & 12	0	15/09/07	14/09/07 DC0 14/09/07 DC0 02/11/07 DC0	682*													
	Connection to existing systems Sump pit construction and the many table to a system of the system of	+ - +		19/12/07 DC0 28/03/08 DC0							 							
DC0702 DC0704 DC0706	Gi works (pre-drilling & reporting) Permanent Mini-piles (6nos.) Proof load test (1/2Nos.)	60	14/12/05	13/12/05 DC0 22/02/06 DC0 05/06/06 DC0	702*													
Earthwork DC0710 DC0712 DC0714	s Install temp, retaining walls (sheetpile) Excavation Backfill & rockfill underneath pit	30	13/06/07	12/07/06 DC0 17/07/07 DC0 06/02/08 DC0	640*, DC0710				Fairs	3			1					
Stnicture DC0716 DC0718 External V	Concrete works Installation: handrailing/ladders/mesh etc. Vorks	40	15/09/07	14/09/07 DC0 02/11/07 DC0	1716*	•												
Earthwork	Sump pit construction s Goods (Cat.5) Storeroom s Excavation, rockfill & blinding			28/03/08 DC0														
Superstru DC0734 Finishing	cture Stactures	50	01/08/07	28/09/07 DC0)732*								EKRE		i			
DC0736 Chemical Earthwork DC0742	Internat & external finishing Waste storeroom No.1 & 2 Is Excavation, rockfill & blinding			22/11/07 DC0									E33					
Superstru DC0744 Finishing DC0746	Structures	1990) 1997	1.	28/09/07 DC0														
Key Date	Completion of the Section 4	45	///		1/44 4*, DC0660*, D(C0724*,									•			
Cover & S	ction 5 of Works helter to Existing Structure							_										
DC0752 DC0754 DC0756	Shelter for UV channel Cover for Inlet Pumping Station Cover for Flume channels	24	13/06/07	29/09/07 DC0 10/07/07 DC0 11/08/07 DC0)640*)754*	at 3 of 5												

Activity	Activity	Orig Early	Early	Predecessors	EOND	J FIM	2006 AMJJ	ASON	JFM	200 A M J	7 I A S C	OND	JFM	2008 AIMIJ	JIAIS
ID DC0758	Cover for Grit channels	Dur Start 28 11/07/07		DC0754*		nuu aana	arrennin m	rinia pomia	forfan s'n fillian o	ani maing I		n Doniniir	iconiiida	nii ii	หมายหัยก
C0760	Cover for Sedimentation tank No. 1-8 Cover for Studge Hoarding Tank No. 1-4	50 02/10/07													
oadworl															
00764	Portion 1	50 31/01/08													
oco766 oft Land	Portion 2&3 scaping Works	86 29/03/08	10/07/08	DC0764*											
0C0770	Planting works (Portion 2)	28 11/07/08	12/08/08	DC0766*											
0C0772	Hydroseeding	6 13/08/08													1
stablishi	ment Works														
	General establishment works	30 20/08/08	24/09/08	DC0772*						-					
ley Date															
DC07K5	Completion of the Section 5	0	24/09/08	D004*, DC0772,											•
	ig of Ting Kok Road Pumping Stati ction 6 of Works	on 140.5													
amping															
00805	Initial Survey	22 27/09/05	24/10/05	D004*											
0C0808	Site Clearance + Tree Felling Hoarding Erection	18 11/10/05 12 25/10/05													
DC0812	Demolition of Existing Boundary Wall (partial)	7 08/11/05	15/11/05	DC0810*											
DC0814	G.L/Pre-drilling Prelim Pile (1no) (Pile Installation+Setting up)	30 01/11/05 40 06/12/05	21/01/06	DC0814*					1		\rightarrow				
DC0820 DC0822	Minl Piling (66 nos.) Pile Load Test (1 nos) (Selection of Piles)	90 08/12/05 30 24/03/06	_	DC0818* DC0820*											
C0830	Sheetpiling + Wailing + Excavation (ELS)	50 29/04/06 125 29/06/06	28/06/06	DC0822*											
0C0842	Substructure Backfilling	51 21/09/06	20/11/06	DC0840*										1	
0C0844 0C0848	Superstructure (incl. roof) Internal Finishes (Plumbing, Cat tadder, etc)	75 25/11/06 26 23/02/07		DC0840*, DC0842 DC0844*											
ransform	ner House														
00852	Site Clearance+Tree Felling+Tree Transplanting	24 08/11/05													
0C0854	G.I./Pre-drilling Prelim Pile (1nc) (Pile Installation+Setting up)	30 01/11/05	-	DC0808* DC0852*, DC0854*										-	
00858	Mini Piling (10 nos.)	90 08/12/05	23/03/06	DC0856*											
DC0860 DC0862	Pile Load Test (1 nos) (Selection of Piles) Excavation (Open excavation) (2,05m depth)	26 29/04/08	30/05/08	DC0860*											
DC0864 DC0866	Substructure Backfilling	26 31/05/06		DC0862* DC0864*											
DC0868	Superstructure (incl. roof) Internal Finishes	50 15/07/06 12 12/09/06													
(ey Date	server process and sub-course the databased of the	ala ana chan ang			00003						-				
3-0 J (1-0 4144)					100.000 100.000						1				
	Completion of the Section 6	0	24/03/07	D004*, DC0848*, DC0	870				4						
DC08K6 N09: Se	ction 7 of Works	0	24/03/07	D004*, DC0848*, DC0	870				•						
DC08K6 N09: Se		0	24/03/07	D004*, DC0848*, DC0	870										
DC08K6 N09: Se Sewers; F DC0922	ction 7 of Works and the second secon	24 25/10/05	5 21/11/05	DC0806*					•						
DC08K6 N09: Se sewers: F DC0922 DC0924 DC0926	ction 7 of Works and the second secon	24 25/10/05 120 02/11/05 10 28/04/06	5 21/11/05 5 22/03/06 5 09/05/06	DC0806* DC0922* DC0926*, DC0924			8		•						
DC08K6 N09: Se	ction 7 of Works Rising Mains (by Open Excavation) Initial Survey Documents Submission (eg. Pipeline Schedule)	24 25/10/05 120 02/11/05	i 21/11/05 i 22/03/06 i 09/05/06 i 15/06/06	DC0808* DC0922*			8								
DC08K6 Sewers, F DC0922 DC0924 DC0926 DC0928 DC0930 DC0932	ction 7 of Works use the second secon	24 25/10/05 120 02/11/05 10 28/04/06 30 10/05/06 30 10/05/06 20 16/06/06	 21/11/05 22/03/06 09/05/06 15/06/06 15/06/06 10/07/06 	DC0806* DC0922* DC0906*, DC0924 DC0926* DC0926* DC0926* DC0928*			8333								
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DC08K6 N09: Se ewers; F DC0922 DC0924 DC0928 DC0928 DC0928 DC0930 DC0938 DC0938 DC0938 DC0938 DC0938	Ction 7 of Works and the second secon	24 25/10/0 120 02/11/0 30 10/05/0 30 10/05/0 30 10/05/0 30 10/05/0 30 10/05/0 30 10/05/0 30 31/07/0 9 31/07/0 5 10/08/0 9 31/07/0	2 21/11/05 2 21/11/05 2 2/03/06 0 9/05/06 1 5/06/06 1 5/06/06 1 5/07/06 0 9/07/06 2 9/07/06 0 9/08/06 1 5/08/06 0 9/08/06 0 9/08/06	DC0808* DC0908* DC0922* DC0928* DC0928* DC0928* DC0932* DC0932* DC0933* DC0938*				8							
000866 N097 Se ewers; F 00922 00924 000928 000928 000930 000932 000930 000932 000936 000938 000938 000938 000944	Ction 7 of Works and the second secon	24 25/10/05 120 02/11/05 30 10/05/06 30 10/05/06 20 16/06/06 17 11/07/06 9 31/07/06 5 10/08/06	21/11/05 22/03/06 09/05/06 15/06/06 15/06/06 10/07/06 29/07/06 15/08/06 15/08/06 15/08/06 15/08/06 15/08/06	DC0906* DC092* DC0926* DC0926* DC0926* DC0926* DC0926* DC0928* DC0938* DC0938*				8	•					-	
0008K6 N092 Sc ewers, F 000922 000928 000928 000928 000930 000932 000932 000932 000938 000940 000944 000944 000948	Ction 7 of Works and the second secon	24 25/10/02 120 02/1/02 10 28/04/06 30 10/05/06 30 10/05/06 30 10/05/06 30 10/05/06 30 10/05/06 31 10/07/06 5 10/08/06 9 31/07/06 16 10/08/06 8 29/08/06 17 07/09/06	21/11/05 5 22/03/06 5 09/05/06 1 5/08/06 1 15/08/06 5 09/08/06 5 09/08/06 5 09/08/06 5 28/08/06 5 28/08/06 6 06/08/06 5 27/09/06	DC09806* DC0922* DC0926* DC0926* DC0926* DC0926* DC0928* DC0932* DC0938* DC0938* DC0938* DC0938* DC0936* DC0936* DC0944* DC0946*				9 8 9 69	4						
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COURCE NO.9: Se ewers; F coose coos	Ction 7 of Works and American Street	24 25/10/02 120 02/11/02 10 22/04/02 20 10/05/02 20 10/05/02 20 16/06/02 17 11/07/06 9 31/07/02 18 10/06/06 8 29/08/02 17 07/09/02 18 07/10/02 18 07/10/02 10 05/02 10 05/0	 21/11/05 22/03/06 15/06/06 15/06/06 15/06/06 15/08/06 09/05/06 09/08/06 29/07/06 09/08/06 28/08/06 06/09/06 27/09/06 05/10/06 27/10/06 06/12/06 18/12/06 30/12/05 22/08/06 04/09/06 04/09/06 	Dc0806* Dc0806* Dc092* Dc092* Dc092* Dc092* Dc092* Dc093* Dc094* Dc095* Dc095* Dc094* Dc095* Dc095* Dc095* Dc095* Dc095* Dc095*					3						
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ID	Activity Description	Orig Dur	Early Start	Early Finish	Predecessors		FMAM					ASQ			
jewers, l	Rising Mains (by Trenchless)														
DC0902	Working pits construction for TL1	20	23/03/06	15/04/08	DC0812, DC0924*	-	-	F		1					
DC0906	Laying Sewer MH6 - MH5 (underneath box culvert)	10	17/04/06	27/04/06	DC0902*										
DC0908	Dismantling & Removal of Equipments (TL1)	15	28/04/06	16/05/06	DC0906*										
DC0910	Working pits construction for TL2	20	17/05/06	09/06/06	DC0908*			t							
DC0912	Laying Rising Mains CH.0+30 - CH.0+25	20	10/06/06	04/07/06	DC0910*										
DC0914	Dismanting & Removal of Equipments (TL2)	15	05/07/06	21/07/06	DC0912*										
DC0916	Working pits construction for TL3	12	22/07/06	04/08/06	DC0914*	1		63							
DC0918	Laying Rising Mains CH.2+19 - CH.2+14	11	05/08/06	17/08/06	DC0916*	1 1		12							
DC0920	Dismantling & Removal of Equipments (TL3)	8	18/08/05	26/08/06	DC0918*			0							
Remainin	g works of P/S & T/H											- 1-			
DC0952	Civil Works for E&M Installation (cable duct)	117	23/02/07	12/07/07	00844*					E Sale Andread and					
DC0952 DC0954	External Finishes			26/07/07		-1 1									
	Roofing Finishes			09/05/07		-					9				
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3N10/11:		0		27/07/07	D004*, DC0952, DC0954,							<u>></u>			
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Appendix 3

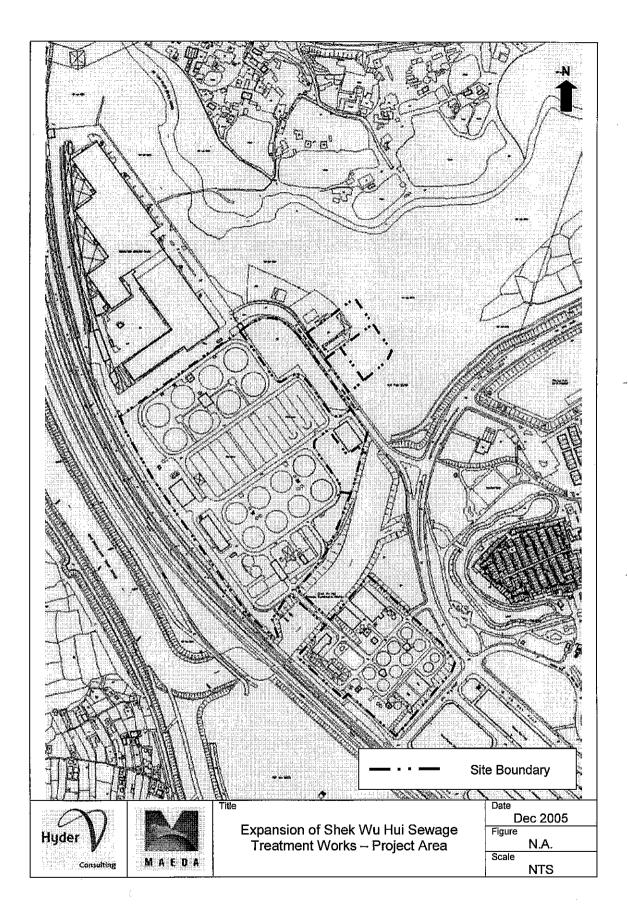
Location of Works

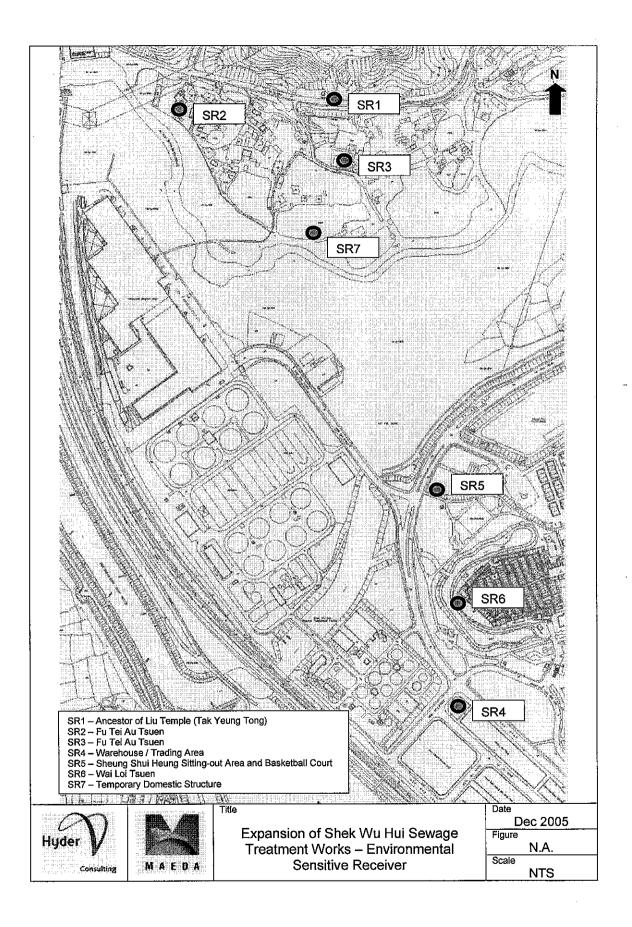


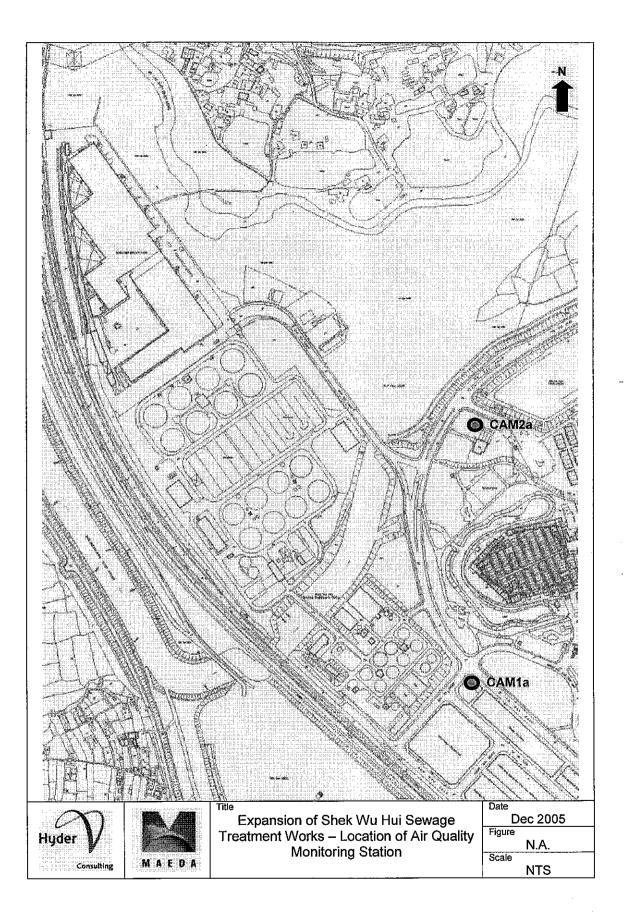


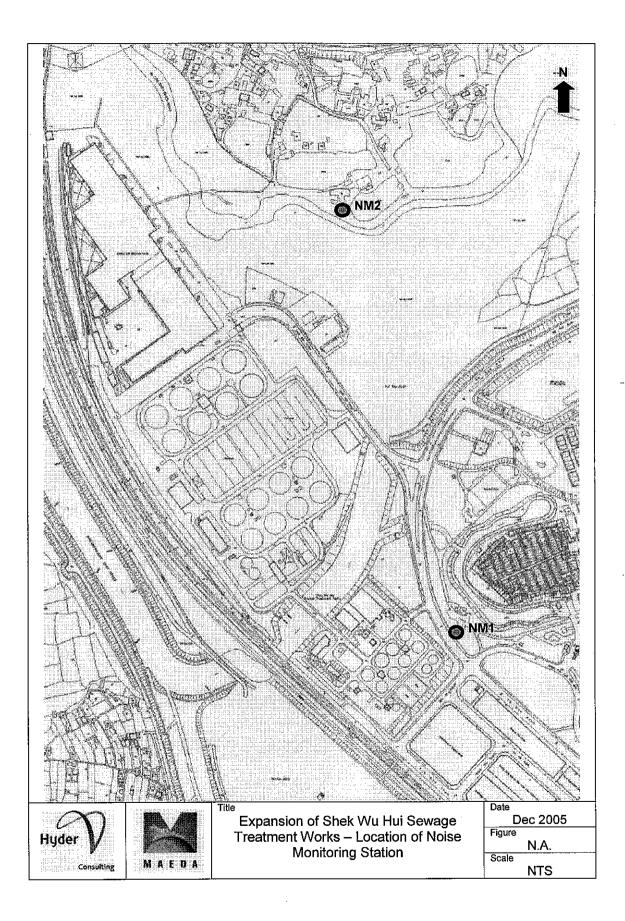
Appendix 4

Project Area, Environmental Sensitive Receiver and Monitoring Location











Action and Limit Levels

Monitoring Station ID	1-hour TSP Level in (μg/m³)		24-hour TSP L	evel in (μg/m³)
	Action Level	Limit Level	Action Level	Limit Level
CAM1a	342. 7	500	203.3	260
CAM2a	340.2	500	201.6	200

Action and Limit Levels for Air Quality

Time Period	Action Level	Limit Level
0700 – 1900 hours on normal weekdays	When one documented complaint is received	75 dB(A)

Action and Limit Levels for Noise



Environmental Requirements and

Implementation Status

IMPLEMENTATIONS STATUS OF MITIGATION MEASURES

Implementation Status for Air Quality Control

PP Ref#	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Status	Follow-up Action and Final Outcome
Annex I S1.7.1	Dust mitigation measures stipulated in the <i>Air Pollution Control</i> (<i>construction Dust</i>) Regulation shall be incorporated to control dust emission from the Site. Notice shall be given to the authority prior to commencement of works.	Works sites / during construction period	Contractor	Properly Implemented	N/A

The section number in the Project Profile for Expansion of Shek Wu Hui Sewage Treatment works (Application No. DIR-121/2005)

Implementation Status for Water Quality Control

PP Ref#	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Status	Follow-up Action and Final Outcome
Annex 2 S2.4.4	The practice outlined in Practice Note for Professional Persons on Construction Site Drainage, Professional Person Environmental Protection Department, 1994 (ProPECC PN 1/94) including the use of sediment traps, wheel washing facilities for vehicles leaving the site, adequate maintenance of drainage systems to prevent flooding and overflow, sewage collection and treatment, and comprehensive waste management (collection, handling, transportation, disposal) procedures should be adopted to minimize the potential water quality impact from construction site runoff and various construction activities.	Works sites / During the construction period	Contractor	Properly Implemented	N/A
Annex 2 S2.4.4	 Construction Runoff and Drainage At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed and internal drainage works and erosion and sedimentation control facilities implemented. Channels, earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilitates. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt/sand traps should be 5 minutes under maximum flow conditions. Sizes may vary depending upon the flow rate, but for a flow rate of 0.1m³s⁻¹ a sedimentation basin of 30m³ would be required and for a flow rate of 0.5m³s⁻¹ the basin would be 150m³. The detailed design of the sand/silt traps will be undertaken by the contractor prior to the commencement of construction. Ideally, construction works should be programmed to minimize surface excavation works during the rainy season (April to September). All exposed earth areas should be compacted and vegetated as soon as possible after earthworks have been completed, or alternatively, within 14 days of cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means. 	Works sites / During the construction period	Contractor	Properly implemented as appropriate	N/A

PP Ref#	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Status	Follow-up Action and Final Outcome
Annex 2 S2.4.4	 Construction Runoff and Drainage (Cont'd) The overall slope of the site should be kept to a minimum to reduce the erosive potential of surface water flows, and all trafficked areas and access roads protected by coarse stone ballast. An additional advantage accruing from the use of crushed stone is the positive traction gained during prolonged periods of inclement weather and the reduction of surface sheet flows. All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas. Measures should be taken to minimize the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m³ should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system. Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers. Precautions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storms events, especially for areas located near steep slopes. 	Works sites / During the construction period	Contractor	 The cap of water barrier on site was found missing on 3 Feb 06. Broken gravel bags were found in the U channels close to manhole which was close to the slaughter house on 6 Feb 06. Wetsep and sedimentation tanks at Portion 2 were full of mud on 24 Feb 06. 	 The inlet of water barrier was sealed. The gravel bag in the U-channels was removed and the gravel bag along the U-channel was grouted by cement. Mud and silt in sedimentation tank and wetsep has been removed.

PP Ref#	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Status	Follow-up Action and Final Outcome
Annex 2 S2.4.4	 Construction Runoff and Drainage All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing bay should be provided at every site exits and washwater should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheelwash bay to the public road should be paved with sufficient backfill toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains. On-site drainage system should be equipped with oil interceptors to separate oil/fuel from contaminated storm water. 	Works site / During the construction period	Contractor	Properly implemented as appropriate	N/A
Annex 2 S2.4.4	 General Construction Activities Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts. All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 100% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearly. 	Works site / During the construction period	Contractor	Properly Implemented as appropriate	N/A
Annex 2 S2.4.4	 Sewage from Construction Workforce Sewage from construction workforce should be handled by portable chemical toilets or sewage holding tanks with the sewage regularly collected by a reputable sewage collector for disposal at, for example, SWHSTW. Sewage from on-site toilets should be diverted to and stored within sewage holding tanks for later disposal. 	Works site / During the construction period	Contractor	Properly implemented	N/A

The section number in the Project Profile for Expansion of Shek Wu Hui Sewage Treatment works (Application No. DIR-121/2005)

Implementation Status for Waste Management

PP Ref#	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Status	Follow-up Action and Final Outcome
Annex 3 S3.5.1	 Waste Reduction Measures of Construction Stage Measures recommended in the ETWB TCW No. 15/2003 should be followed to require the contractor to prepare and implement an enhanced Waste Management Plan (WMP) to encourage on-site sorting of C&D materials and to minimize their generation during the course of construction. For the demolition works, the contractor shall submit a method statement for the works as part of the WMP. The Contractor shall include in the method statement the sequence of demolition and the work programme to facilitate effective recovery of reusable and/or recyclable portions of the C&D materials at the earliest stage, so as to minimise the need for subsequent sorting. Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal. Separate labelled bins shall be provided to segregate aluminium cans from other general refuse generated by the work force, and to encourage collection of by individual collectors. Any unused chemicals or those with remaining functional capacity shall be recycled. Maximising the use of reusable steel formwork to reduce the amount of C&D material. Prior to disposal of C&D waste, it is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quality of waste to be disposed of to landfill. Proper storage and site practices to minimise the potential for damage or contamination of construction materials. Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. Minimize over ordering of concrete, mortars and cement grout by 	Work site / During the construction period	Contractor	Properly implemented as appropriate	N/A

PP Ref#	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Status	Follow-up Action and Final Outcome
Annex 3 S3.5.2 – S3.5.5	 Good Site Practices Nomination of approved personnel, such as a site manager, to be responsible for good site practices, and making arrangements for collection of all wastes generated at the site and effective disposal to an appropriate facility. Training of site personnel in proper waste management and chemical wast handling procedures; Provision of sufficient waste disposal points and regular collection for disposal; Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; A Waste Management Plan should be prepare and should be submitted to the engineer for approval; and A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed. In order to monitor the disposal of C&D material at landfills and public filling facilities, as appropriate, and to control fly tipping, a tripticket system should be included as one of the contractual requirements to be implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. The measures recommended in ETWB TCW No. 31/2004 should be followed. 	Work site / During the construction period	Contractor	 Oil leakage from drilling rig was observed on site on 3 Feb 06. It was observed that there was oil stain next to the diesel cap of the air compressor on 6 Feb 06. Accumulated water was observed in drip tray at Portion 2 on 24 Feb 06. 	 The plant was checked and was filled before operation. The oil stain and contaminated soil were removed. Larvicide has been applied to the water in drip tray properly.
Annex 3 S3.5.6	 General Refuse General refuse should be stored in enclosed bins or compaction units separate from C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material; 	Work site / During the construction period	Contractor	Properly Implemented	N/A

PP Ref#	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Status	Follow-up Action and Final Outcome
Annex 3 S3.5.7	 Construction and Demolition Material The C&D material generated from the site formation and demolition works should be sorted on-site into inert C&D material (that is, public fill) and C&D waste. In order to minimise the impact resulting from collection and transportation of C&D material for off-site disposal, the excavated material comprising fill material should be reused onsite as backfilling material as far as practicable. C&D waste, such as wood, plastic, steel and other metals should be reused or recycled and, as a last resort, disposed of to landfill. A suitable area should be designated within the site for temporary stockpiling of C&D material and to facilitate the sorting process. 	Work site / During the construction period	Contractor	Properly Implemented	N/A
Annex 3 S3.5.8	 Chemical Wastes When chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a Chemical Waste Producer and to follow the requirements stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers computable with the chemical wastes should be used. Appropriate labels should be securely attached on each chemical waste container indicating the chemical characteristics of the chemical waste, such as explosives, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a license wast collector to transport and dispose of the chemical wastes in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. 	Work site / During the construction period	Contractor	Properly Implemented	N/A

The section number in the Project Profile for Expansion of Shek Wu Hui Sewage Treatment works (Application No. DIR-121/2005)

Implementation Status for Noise Control

PP Ref#	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Status	Follow-up Action and Final Outcome
Annex 4 S4.7.1	Use of quiet PME	Work sites / During the construction period	Contractor	Properly Implemented	N/A
Annex 4 S4.7.3	 Good Site Practice Only well-maintained plant should be operated on-site and plant should be services regularly during the construction phase; Silencers or mufflers on construction equipment should be utilised, if found necessary, to further reduce noise, and should be properly maintained during the construction phase; Mobile plant should be sited as far away from NSRs as possible; Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; Plant known to emit noise strongly in one direction, should, where possible, be orientated so that the noise is directed away from nearby NSRs; and Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities. 	Work sites / During the construction period	Contractor	Properly Implemented	N/A

The section number in the Project Profile for Expansion of Shek Wu Hui Sewage Treatment works (Application No. DIR-121/2005)



Calibration Records

Annex 2 High Volume Air Sampler Calibration Worksheet

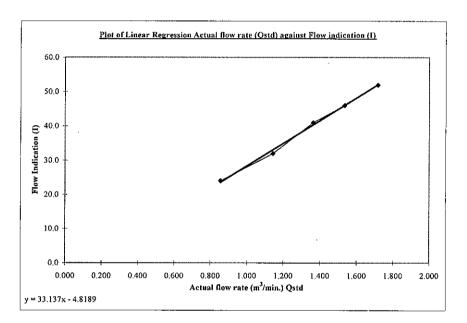
Project Title: Monitoring Location: Date: Time:

Expansion of Shek Wu Hui Sewage Treatment Works Sewage Pumping Station at j/o San Po Street and Po Wan Road (CAM1a) 14-Jan-06 09:30

Sampler Model:	GBM2000H1	
Calibrator Orifice no.:	517N	
Slope (m):	2.02844	Pa Ts
Intercept (b):	-0.02391	$Flow(corrected) = \sqrt{H \times \frac{Pa}{Petd} \times \frac{Ts}{T}}$
Correction coeff. (r)	0.99999	i rsta i
Serial No.:	1101	
Standard pressure (mmHg) Pstd:	760.0	$Qstd = \frac{1}{m} \times (\sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}} -$
Standard temp. (K) Tstd:	297.18	$Q^{sid} = \bigwedge_{m} \bigvee_{psid} Psid Ta$
Calibration pressure (mmHg) Pa:	762.1	
Calibration temp. (K) Ta:	294.9	

Sample no.	Pressure Drop (H), inch	Flow (corrcted), m ³ /min	Actual flow rate (Qstd), m ³ /min	Flow indication (I), arbitrary
1	11.8	3,458	1.716	52.0
2	9.4	3,086	1.533	46.0
3	7.4	2.738	1.362	41.0
4	5.2	2.295	1,143	32.0
5	2.9	1.714	0.857	24.0

Correlation Coefficient: 0.9982



Remark Qstd Range 0.6 - 1.7 1HPa = 0,750062 mmHg

Calibrated by:

Kenneth H.C. Choi 05)

Checked by:

Adi Lee AL

(

(

)

Date: $\frac{140}{106}$

Annex 2 High Volume Air Sampler Calibration Worksheet

Project Title: Monitoring Location: Date: Time:

Expansion of Shek Wu Hui Sewage Treatment Works Flood Balancing Pumping Station at Po Wan Road near Wai Loi Tsuen (CAM2a)) 14-Jan-06 10:00

Sampler Model:	GBM2000HI
Calibrator Orifice no.:	517N
Slope (m):	2.02844
Intercept (b):	-0.02391
Correction coeff. (r)	0.99999
Serial No.:	0134
Standard pressure (mmHg) Pstd:	760.0
Standard temp. (K) Tstd:	297,18
Calibration pressure (mmHg) Pa:	762,1

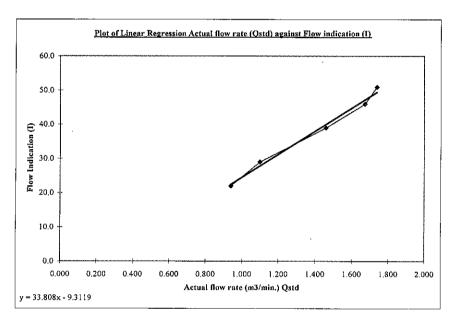
low(corrected) =	н	Pa	Tstd
ion (concettury -	٧	Pstd	Та

F

$$Qstd = \frac{1}{m} \times (\sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}} - b)$$

Sample no.	Pressure Drop (H), inch	Flow (corrcted), m ³ /min	Actual flow rate (Qstd), m ³ /min	Flow indication (I), arbitrary
1	12.1	3.502	1.738	51.0
2	11.2	3.369	1,673	46.0
3	8.5	2.935	1.459	39.0
4	4.8	2.205	1.099	29.0
5	3.5	1,883	0.940	22.0





Remark Qstd Range 0.6 - 1,7 1HPa = 0,750062 mmHg

Calibrated by:

Kenneth H.C. Choi 15)

(

(

Checked by:

Adi Lee Als

)

Date: 14/0//06. Date: 15/1/06

A.			TISCH ENVIRONMENTAL, INC. 145 South Miami Ave. Village of Cleves, OH 45002
V ENVIRONMENTAL	н. С		513.467.9000
ICCL	•		877.263.7610 TOLL FREE
I D G I I			513.467.9009 FAX
		•	WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Ma Operator		5 Rootsmeter Orifice I.I	•	833620 517N	Ta (K) - Pa (mm) -	294 - 753.62
PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1 2 3 4 5	NA NA NA NA	NA NA NA NA NA	1.00 1.00 1.00 1.00 1.00	1.4090 0.9950 0.8910 0.8490 0.7010	3.2 6.3 7.8 8.6 12.6	2.00 4.00 5.00 5.50 8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
1.0008 0.9967 0.9946 0.9936 0.9882	0.7103 1.0017 1.1163 1.1703 1.4098	1.4178 2.0051 2.2418 2.3512 2.8356		0.9957 0.9916 0.9895 0.9886 0.9832	0.7067 0.9966 1.1106 1.1644 1.4026	0.8833 1.2492 1.3966 1.4648 1.7666
Qstd slop intercep coefficio	t (b) = ent (r) =	2.02844 -0.02391 0.99999		Qa slope intercept coefficie	t(b) =	1.27017 -0.01489 0.99999
y axis =	SQRT [H20 (1	Pa/760) (298/:	ľa)]	'y axis =	SORT [H2O (1	[a/Pa]]

CALCULATIONS

Vstd = Diff. Vol[(Pa-Diff. Hg)/760](298/Ta) Qstd = Vstd/Time

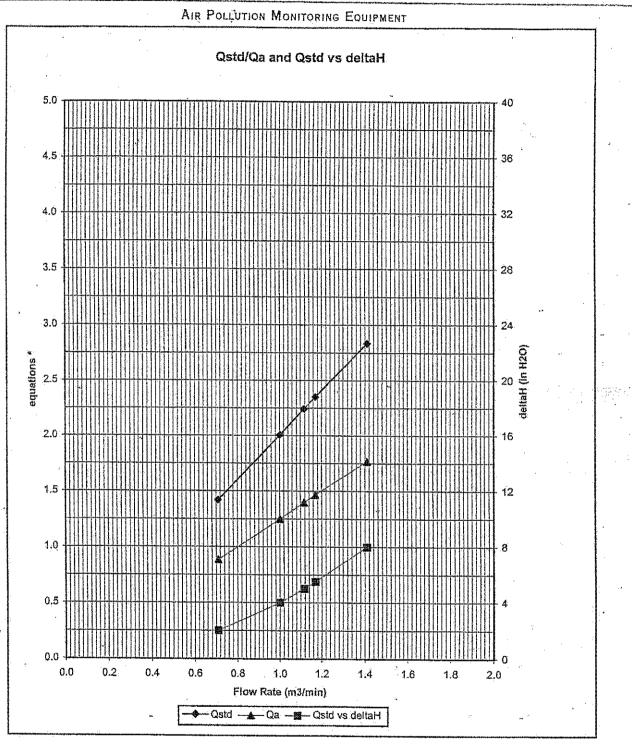
Va = Diff Vol [(Pa-Diff Hg)/Pa] Qa = Va/Time

For subsequent flow rate calculations:

Qstd = $1/m\{ [SQRT(H2O(Pa/760)(298/Ta))] - b \}$ Qa = $1/m\{ [SQRT(H2O(Ta/Pa)] - b \}$ ISCH

TISCH ENVIRONMENTAL, INC. 145 SOUTH MIAMI AVE. VILLAGE OF CLEVES, OH 45002 513.467.9000 877.263.7610 TOLL FREE 513.467.9009 FAX WWW.TISCH-ENV_COM

#517N



* y-axis equations: Qstd series: $\sqrt{\Delta H \left(\frac{Pa}{P s t d}\right) \left(\frac{T s t d}{T a}\right)}$ Qa series: $\sqrt{(\Delta H (Ta / Pa))}$



Calibration Certificate

Certificate No. 55747	۲ 		Page	1 of 2 Pages	
Customer: Hyder Co	onsulting Limited				
Address : 47/F., Ho	pewell Centre, 183 Q	ueen's Road East, V	Van Chai, Hong Ko	ing	· ·
Order No. : Q52108			Date of receipt	: 7-Dec-0	05
Item Tested		······································		· · · · · · · · · · · · · · · · · · ·	·
Description: Sound LeManufacturer: B&KModel: Type 423	evel Calibrator 31	· · · · · · · · · · · · · · · · · · ·	Serial No.	: 1770806	
Test Conditions					
Date of Test : 15-Dec-0 Ambient Temperature :	05 (23 ± 3)°C	· .	Supply Voltage Relative Humid		:
Test Specifications			••		
Calibration check accordi Calibration procedure :	ing to customer's requi F21, Z02.	irement.			
Test Results			•		
The results are shown in Test equipment used: Equipment No.	the attached page(s). Cert. No.	Due Date	Traceable to		
S014	53024	7-Jui-06	PRC-NIM		
S024	S41431	22-May-06	PRC-NIM		
S041	53972	26-Aug-06	HKGSCL		
The values given in this Calibra will not include allowance for th overloading, mis-handling, or th for any loss or damage resulting	e equipment long term drift, ne capability of any other lab	, variations with environm poratory to repeat the me	ental changes, vibratio	n and shock during transp	portation,
The test equipment used for ca The test results apply to the ab		ternational System of Uni	ts (SI).		
	/		· · · · · · · · · · · · · · · · · · ·		
Calibrated by :	1 Mar	Ap	proved by :		<u> </u>
This Certificate is issued by: Hong Kong Calibration Ltd. Unit 8B, 24/F., Well Fung Industrial Centr Tal: 2425 9811 For: 2425 9846	e, No. 58-76, Te Chuen Ping Street,	Date Kwai Chung, NT,Hong Kong.	e: 15-Dec-05		

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Hong Kong Calibration Ltd.

香港校正 有限公司

Calibration Certificate

Certificate No. 55747

Page 2 of 2 Pages

Results :

1. Level Accuracy

UUT Nominal Value (dB)	Measured Value (dB)	IEC 942 Class 1 Spec.
94	94.0	± 0.3 dB
114	114.0	

Uncertainty : $\pm 0.2 \text{ dB}$

2. Frequency

UUT Nominal Value	Measured Value	IEC 942 Class 1 Spec.
1 kHz	1.005 kHz	±2%

Uncertainty : \pm 3.6 x 10 ⁻⁶

- Level Stability : 0.0 dB IEC 942 Class 1 Spec. : ± 0.1 dB Uncertainty : ± 0.01 dB
- 4. Total Harmonic Distortion : < 0.4 % IEC 942 Class 1 Spec. : < 3 % Uncertainty : ± 2.3 % of reading

Remark : 1. UUT : Unit-Under-Test

- 2. The above measured values are the mean of 3 measurements.
- 3. The uncertainty claimed is for a confidence probability of not less than 95%.
- 4. Atmospheric Pressure : 1 004 hPa.

----- END -----

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Brüel & Kjær 💵 🛲

CERTIFICATE OF CALIBRATION

Certificate No.: 2KS051204-1

Page 1 of 2

Calibration of:

Description : Manufacture :	•	Sound Level Meter Brüel & Kjær	,	Microphone
Type No. :		2238	,	4188
Serial No. :		2285726	,	2462195

Client :

Hyder Consulting Limited 47/F, Hopewell Centre, 183 Queen's Road East, Wanchai, Hong Kong.

Calibration Conditions :

Air Temperature	:	23.0	°C
Air Pressure	:	101.1	kPa
Relative Humidity	:	61	%

Test Specifications :

The Sound Level Meter has been calibrated in accordance with the requirements as specified in IEC 60651 and IEC 60804 type 1, and vendor specific procedures.

The measurements has been performed with the assistance of :

Brüel & Kjær's Sound Level Meter Calibration System B&K 9600 CAL2238A, Ver.25.10.1999 The standard(s) and instrument(s) used in the calibration are traceable to international standard and are calibrated on a schedule which is adjusted to maintain the required accuracy level.

Test Result :

A list of the performed (sub) tests is stated on page 2 of this certificate. Actual Measurement are documented on worksheet.

Date of Calibration : 08 December, 2005 Calibrated By : Certificate issued : 09 December, 2005 Approved signatory :

Dai Bin

Jacky Leung

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Unit 706 7/F, Miramar Tower, 132 Nathan Road, Tsim Sha Tsui, Kowloon, Hong Kong 香港九龍尖沙咀爾敦道132號美麗華大廈7樓706室

Tei : (852) 2548 7486 Fax : (852) 2858 1168

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CERTIFICATE OF CALIBRATION

Certificate No.: 2KS051204-1

Page 2 of 2

Results :

List of performed (sub) test with test status:

"OK" Means the result of the (sub)test is Inside the tolerances stated in the test specifications.

"-" Means the result of the (sub)test is Outside these tolerances.

Subtest :	Status :
Α	OK
C	OK
Lin	OK
Α	OK
C	OK.
Lin	OK
1000 Hz	OK
SPL 10dB 4000 Hz	OK.
SPL 1dB 1000 Hz	OK
Leq	OK.
SEL	OK
CF 3	OK
CF 5	OK.
CF 10	OK
Symmetry	OK
Difference Indication	OK
Single Burst FAST	OK
Single Burst SLOW	OK
Single Burst IMPULSE	OK
Repetitive Burst	OK
Peak	OK
	OK
	OK
SPL	OK
SEL	OK
Α	OK
Lin	OK.
	A C Lin A C Lin 1000 Hz SPL 10dB 4000 Hz SPL 10dB 4000 Hz SPL 1dB 1000 Hz Leq SEL CF 3 CF 5 CF 10 Symmetry Difference Indication Single Burst FAST Single Burst SLOW Single Burst IMPULSE Repetitive Burst Peak SPL SEL A

Calibration Eq	uipment :
-----------------------	-----------

Brüel & Kjær's Sound	Level Meter Calibr	ation System	B&K 9600 CAL	2238A, Ver.25.10.1999
Description :	Make & Model :	Serial No. :	Last Cal. Date :	Traceable to:
Digital Multi-meter	Datron 1281	27361	05 Oct, 2005	HKSCL (HOKLAS)
Sine/Noise Generator	B&K 1049	1314978	Test	B&K Conformance
Test Waveform Generator	B&K 5918	1482949	Test	B&K Conformance
Acoustical Calibrator	B&K 4226	1551627	11 Jul, 2005	NPL via B&K (UKAS)

Calibrated By : Ann Ron Date : 08 December, 2005 Checked By: Very Date: 09 December, 2005 Brüel & Kjær

CERTIFICATE OF CALIBRATION

Certificate No.: 2KS050510-1

Page 1 of 2

Calibration of:

Description Manufacture		Sound Level Meter Brüel & Kjær	,	Microphone
Type No.	:	2238	,	4188
Serial No.		2448529	,	246 1996

Client :

Hyder Consulting Limited 47/F, Hopewell Centre, 183 Queen's Road East, Wanchai, Hong Kong.

Calibration Conditions :

Air Temperature	:	23.0	°C
Air Pressure	:	101.1	kPa
Relative Humidity	:	61	%

Test Specifications :

The Sound Level Meter has been calibrated in accordance with the requirements as specified in IEC 60651 and IEC 60804 type 1, and vendor specific procedures.

The measurements has been performed with the assistance of :

Brüel & Kjær's Sound Level Meter Calibration System B&K 9600 CAL2238A, Ver.25.10.1999 The standard(s) and instrument(s) used in the calibration are traceable to international standard and are calibrated on a schedule which is adjusted to maintain the required accuracy level.

Test Result :

A list of the performed (sub) tests is stated on page 2 of this certificate. Actual Measurement are documented on worksheet.

 Date of Calibration : 30 May, 2005
 Certificate issued : 31 May, 2005

 Calibrated By :
 Approved signatory :

 No x
 Ng

 Fox Ng
 Jacky Leung

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spectris

CERTIFICATE OF CALIBRATION

Certificate No. : 2	KS050510-1
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Page 2 of 2

Results :

List of performed (sub) test with test status:

"OK" Means the result of the (sub)test is Inside the tolerances stated in the test specifications. "-" Means the result of the (sub)test is Outside these tolerances.

Test:	Subtest :	Status :
Noise	A.	OK.
Noise	С	OK
Noise	Lin	OK
Frequency Weighting	A	OK
Frequency Weighting	С	ОК
Frequency Weighting	Lin	OK
Level Range Control	1000 Hz	. OK
Linearity Range	SPL 10dB 4000 Hz	OK
Linearity Range	SPL 1dB 1000 Hz	OK
Linearity Range	Leq	OK
Linearity Range	SEL	OK
RMS Detector	CF 3	OK
RMS Detector	CF 5	OK
RMS Detector	CF 10	OK
RMS Detector	Symmetry -	OK
Time Weighting	Difference Indication	OK
Time Weighting	Single Burst FAST	OK
Time Weighting	Single Burst SLOW	OK
Time Weighting	Single Burst IMPULSE	OK
Time Weighting	Repetitive Burst	OK
Time Weighting	Peak	OK
Time Averaging		OK
Pulse Range		OK
Overload	SPL	OK
Overload	SEL	OK
Acoustic Response	А	OK
Acoustic Response	Lin	OK

Brüel & Kjær's Sound		-		
Description :	Make & Model :	Serial No. :	Last Cal. Date :	Traceable to:
Digital Multi-meter	Datron 1281	27361	28 Sep, 2004	HKSCL (HOKLAS)
Sine/Noise Generator	B&K 1049	1 3149 78	Test	B&K Conformance
Test Waveform Generator	B&K 5918	1482949	Test	B&K Conformance
Acoustical Calibrator	B&K 4226	1551627	22 Jun, 2004	NPL via B&K (UKAS)
Calibrated By : / Date : 30 May, 2	1005 Ng		Checked By Date : 31 Ma	: Junly 19, 2005



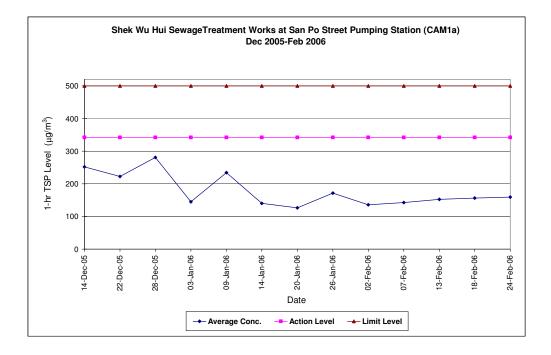
Monitoring Results and Graphical Plots

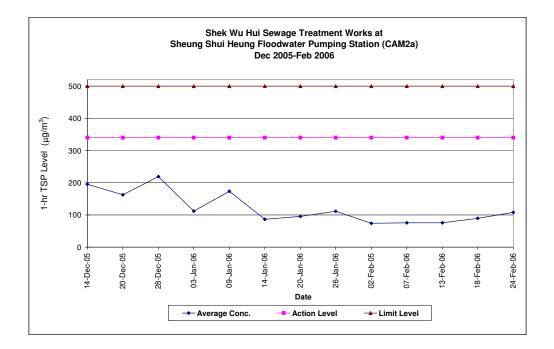
Shek Wu Hui Sewage Treatment Works

Air Quality Impact Monitoring Results (1-Hour TSP)

Location	Monitoring Date	Weather Conditions	Wind Speed with Direction (m/s)	Temp (oC)	Timer-I	Timer-F	Time (mins)	Flow-I (CFM/ Inches)	Flow-F (CFM/ Inches)	Flow-l (m ³ /min)	Flow-F (m ³ /min)	Flow-avg (m ³ /min)	Volume (m ³)	Weight-I (g)	Weight-f (g)	Weight-diff. (g)	1-hr TSP (ug/m ³)	Average 1-Hr TSP (ug/m ³)	Action/Limit Levels (ug/m ³)	Remark
San Po Street	02-Feb-06	Fine	0.1N	21	421681	421778	58.2	32	32	1.11	1.11	1.11	64.67	2.8611	2.8694	0.0083	128.4	135.6		
Pumping Station CAM1A	02-1 60-00	Fine Fine	0.1N 0.1N	21 21	421778 421878	421878 421972	60.0 56.4	33 33	33 32	1.14	1.14	1.14	68.48 63.52	2.8632 2.8465	2.8731 2.8550	0.0099	144.6 133.8	133.0		
Grinde		Fine	0.1NE	21.5	424365	424466	60.6	30	30	1.05	1.05	1.05	63.68	2.8717	2.8816	0.0099	155.5			
	07-Feb-06	Fine	0.1NE	21.5	424466	424568	61.2	31	30	1.08	1.05	1.07	65.23	2.8555	2.8656	0.0101	154.8	142.4		
		Fine	0.1NE	21.5	424568	424667	59.4	30	30	1.05	1.05	1.05	62.41	2.8779	2.8852	0.0073	117.0			
		Sunny	0.5NE	20.5	427060	427154	56.4	32	32	1.11	1.11	1.11	62.67	3.6164	3.6287	0.0123	196.3			
	13-Feb-06	Sunny	0.5NE	20.5	427154	427250	57.6	32	32	1.11	1.11	1.11	64.00	3.6072	3.6166	0.0094	146.9	152.5	342.7/500	
		Sunny	0.5NE	20.5	427250	427351	60.6	32	31	1.11	1.08	1.10	66.42	3.6348	3.6424	0.0076	114.4			
		Rainy	0.3N	19.5	429747	429847	60.0	33	32	1.14	1.11	1.13	67.57	2.8756	2.8963	0.0207	306.3			
	18-Feb-06	Rainy	0.3N	19.5	429847	429940	55.8	32	32	1.11	1.11	1.11	62.00	2.8644	2.8698	0.0054	87.1	156.4		
		Rainy	0.3N	19.5	429940	430045	63.0	32	32	1.11	1.11	1.11	70.00	2.8539	2.8592	0.0053	75.7			
	0451.00	Cloudy	0.8N	23.4	432440	432540	60.0	32	32	1.11	1.11	1.11	66.67	2.8701	2.8836	0.0135	202.5	159.5		
	24-Feb-06	Cloudy	0.8N	23.4	432540	432640	60.0	32	32	1.11	1.11	1.11	66.67	2.8616	2.8709	0.0093	139.5	159.5		
a. a		Cloudy	0.8N	23.4	432640	432740	60.0	32	32	1.11	1.11	1.11	66.67	2.8612	2.8703	0.0091	136.5			
Sheung Shui Heung	02-Feb-06	Fine	0.2N 0.2N	21	505455	505550	57.0	32	32	1.21	1.21	1.21	69.07	2.8583	2.8635	0.0052	75.3	74.2		
Floodwater Pumping Station	02-1 60-00	Fine Fine	0.2N 0.2N	21	505550 505650	505650 505745	60.0 57.0	33 33	33	1.24	1.24	1.24	74.47 69.91	2.8449 2.8640	2.8498 2.8697	0.0049	65.8 81.5	74.2		
CAM2a		Sunny	0.5NE	21	508139	508235	57.6	32	32	1.24	1.21	1.23	69.80	2.8653	2.8714	0.0061	87.4			
OAWZa	07-Feb-06	Sunny	0.5NE	21	508235	508338	61.8	32	32	1.21	1.21	1.21	74.89	2.8455	2.8519	0.0064	85.5	75.7		
		Sunny	0.5NE	21	508338	508442	62.4	32	32	1.21	1.21	1.21	75.62	2.8451	2.8492	0.0004	54.2			
		Sunny	1.0NE	20.1	510836	510929	55.8	32	32	1.21	1.21	1.21	67.62	3.5599	3.5654	0.0055	81.3			
	13-Feb-06	Sunny	1.0NE	20.1	510929	511028	59.4	32	32	1.21	1.21	1.21	71.98	3.5969	3.6025	0.0056	77.8	75.4	340/500	
		Sunny	1.0NE	20.1	511028	511127	59.4	32	30	1.21	1.15	1.18	70.24	3.6039	3.6086	0.0047	66.9			
		Rainy	0.8N	19.5	513521	513623	61.2	32	32	1.21	1.21	1.21	74.16	2.8412	2.8544	0.0132	178.0			
	18-Feb-06	Rainy	0.8N	19.5	513623	513718	57.0	32	32	1.21	1.21	1.21	69.07	2.8574	2.8597	0.0023	33.3	89.5		
		Rainy	0.8N	19.5	513718	513824	63.6	32	32	1.21	1.21	1.21	77.07	2.8703	2.8747	0.0044	57.1			
		Cloudy	0.1N	23.4	516220	516320	60.0	32	32	1.21	1.21	1.21	72.71	2.8554	2.8676	0.0122	167.8	.8		
	24-Feb-06	Cloudy	0.1N	23.4	516320	516420	60.0	32	32	1.21	1.21	1.21	72.71	2.8682	2.8748	0.0066	90.8	107.7		
		Cloudy	0.1N	23.4	516420	516520	60.0	32	32	1.21	1.21	1.21	72.71	2.8656	2.8703	0.0047	64.6			

"Shading" indicates an exceedance of Action Level. "Bold and shading" indicates an exceedance of Limit Level.



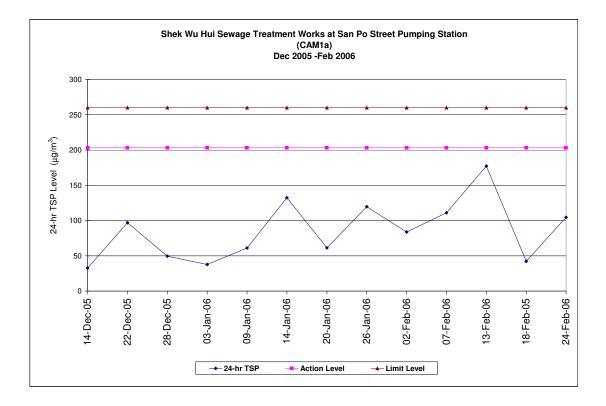


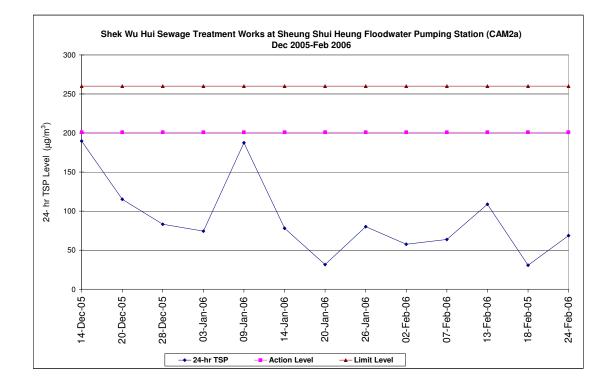
Shek Wu Hui Sewage Treatment Works

Air Quality Impact Monitoring Results (24-Hour TSP)

Location	Monitoring Date	Weather	Wind Speed	Temp	Pressure	Timer-I	Timer-F	Time (mins)	Flow-I	Flow-F	Flow-I	Flow-F	Flow-avg	Volume	Weight-I (g)	Weight-f (g)	Weight-diff. (g)	24-hr TSP	Action/Limit	Remark
		Conditions	with Direction	(oC)	(mmHg)				(CFM/	(CFM/	(m ³ /min)	(m ³ /min)	(m ³ /min)	(m ³)				(ug/m ³)	Levels	
			(m/s)						Inches)	Inches)									(ug/m ³)	
San Po Street	02-Feb-06	Fine	0.1N	21	766.7	421972	424367	1437	33	33	1.14	1.14	1.14	1640.03	2.8729	3.0104	0.1375	83.8		
Pumping Station	07-Feb-06	Fine	0.1N	21.5	766.3	424667	427060	1435.8	30	30	1.05	1.05	1.05	1508.68	2.8505	3.018	0.1675	111.0		
CAM1a	13-Feb-06	Sunny	0.5NE	20.5	764.2	427351	429427	1245.6	32	32	1.11	1.11	1.11	1384.00	3.584	3.8292	0.2452	177.2	203/260	
	18-Feb-05	Rainy	0.3N	19.5	765.7	430045	432440	1437	32	33	1.11	1.14	1.13	1618.35	2.8603	2.9286	0.0683	42.2		
	24-Feb-06	Cloudy	0.8N	23.4	759.6	432740	435133	1435.8	32	32	1.11	1.11	1.11	1595.33	2.8261	2.9931	0.167	104.7		
Sheung Shui Heung	02-Feb-06	Fine	0.2N	21	766.7	505745	508141	1437.6	33	32	1.24	1.21	1.23	1763.17	2.8588	2.9604	0.1016	57.6		
Floodwater	07-Feb-06	Sunny	0.5NE	21	766.3	508442	510835	1435.8	32	32	1.21	1.21	1.21	1739.91	2.8319	2.9429	0.111	63.8		
Pumping Station	13-Feb-06	Sunny	1.0NE	20.1	764.2	511127	513522	1437	32	31	1.21	1.18	1.20	1720.29	3.6152	3.8027	0.1875	109.0	201/260	
CAM2a	18-Feb-05	Rainy	0.8N	19.5	765.7	513824	516220	1437.6	32	31	1.21	1.18	1.20	1721.01	2.8516	2.9046	0.053	30.8		
	24-Feb-06	Cloudy	0.1N	23.4	759.6	516520	518917	1438.2	32	32	1.21	1.21	1.21	1742.82	2.8556	2.9751	0.1195	68.6		

"Shading" indicates an exceedance of Action Level. "Bold and shading" indicates an exceedance of Limit Level.



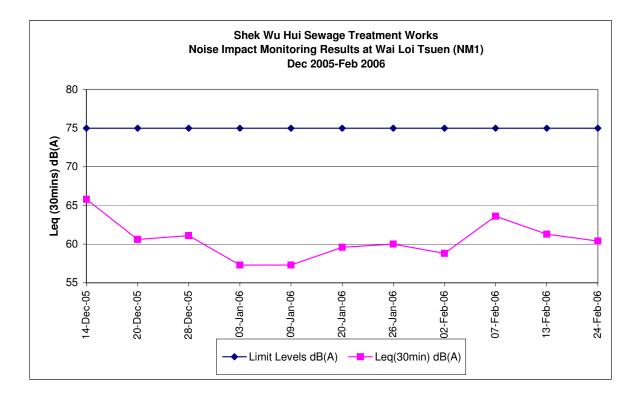


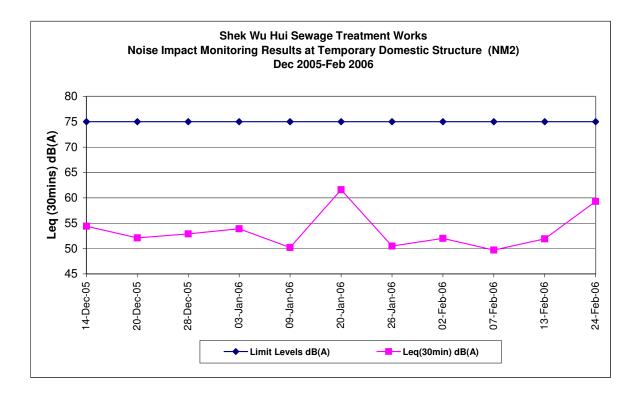
Shek Wu Hui Sewage Treatment Works

Noise Impact Monitoring Results

Monitoring Locations	Date	Weather	Temperature	Wind Speed	Wind	Start Time	End Time	Limit Levels	L _{eq(30min)}	L _{10(30min)}	L _{90(30min)}	Remark
		Conditions	(°C)	(m/s)	Direction			dB(A)	dB(A)	dB(A)	dB(A)	
Wai Loi Tsuen	02-Feb-06	Fine	21	0.1	NE	10:00	10:30	75	58.8	61.4	54.4	
NM1	07-Feb-06	Fine	21	0.1	NE	09:45	10:15	75	63.6	65.1	61.6	
	13-Feb-06	Sunny	20.5	0.5	N	10:30	11:00	75	61.3	63.4	56.7	
	24-Feb-06	Cloudy	22.1	0.1	N	13:00	13:30	75	60.4	62.4	55.9	
Temporary Domestic	02-Feb-06	Fine	21	0.2	NE	11:00	11:30	75	52.0	53.6	49.4	
Structure	07-Feb-06	Fine	21	0.1	NE	10:45	11:15	75	49.7	50.9	47.5	
NM2	13-Feb-06	Sunny	20.1	1	N	11:25	11:55	75	51.9	53.7	49.1	
	24-Feb-06	Cloudy	21.3	0.8	N	14:50	15:20	75	59.3	61.9	52.7	

A façade correction of 3 dB(A) was applied to each measurement result. "Shading" indicates an Limit Level exceedance.







QA/QC Results and Detection Limit

TSP MONTHLY QUALITY CONTROL REPORT

Client: Hyder Consulting Ltd Contact: Mr Coleman Ng Date of Issue: 03/03/2006 Client Reference:



ANALYSIS DESCRIPTION	Date of receipt	Initial Weight of the Lab Blank	Final Weight of the Lab Blank	Weighing Date	Weight Difference
UNIT					g
Limit Of Reporting					0.001
ALS Bach No					
HK49268	02/02/2006	3.3696	3.3697	02/06/2006	<0.0010
HK49299	02/04/2006	3.5573	3.5574	02/07/2006	<0.0010
HK49360	02/07/2006	3.5573	3.5574	02/09/2006	<0.0010
HK49361	02/07/2006	3.6712	3.6712	02/09/2006	<0.0010
HK49402	02/08/2006	3.6412	3.6415	02/10/2006	<0.0010
HK49502	02/14/2006	3.5383	3.5380	02/16/2006	<0.0010
HK49611	02/20/2006	3.5383	3.5384	02/21/2006	<0.0010
HK49771	02/27/2006	3.6412	3.6411	03/01/2006	<0.0010
HK49772	02/28/2006	3.5323	3.5324	03/01/2006	<0.0010

odfrey K F/Chan Supervisor / Inorganics

ALS Environmental

ALS Technichem (HK) Pty Ltd

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Cumulative Statistics of Complaint, Notification of Summons and Successful Prosecution

Reporting	Numbe	er Received in	the Reporting	Month	Cumulative Number					
Month	Complaint	Notification of Summon	Successful Prosecution	EPD Site Inspection Record	Complaint	Notification of Summon	Successful Prosecution	EPD Site Inspection Record		
February 2006	0	0	0	0	0	0	0	1 (Yellow Ticket)		

Cumulative Number of Environmental Complaint



Upcoming EM&A Schedule

Expansion of Shek Wu Hui Sewage Treatment Works

Impact Monitoring Programme – March 2006 (Tentative)

Date		Air	Noise	Site Inspection
1 Mar 06	Wed			✓
2 Mar 06	Thu	\checkmark	✓	
3 Mar 06	Fri			
4 Mar 06	Sat			
5 Mar 06	Sun			
6 Mar 06	Mon			
7 Mar 06	Tue			
8 Mar 06	Wed	\checkmark	✓	✓
9 Mar 06	Thu			
10 Mar 06	Fri			
11 Mar 06	Sat			
12 Mar 06	Sun			
13 Mar 06	Mon			
14 Mar 06	Tue	✓	✓	
15 Mar 06	Wed			✓
16 Mar 06	Thu			
17 Mar 06	Fri			
18 Mar 06	Sat			
19 Mar 06	Sun			
20 Mar 06	Mon	√	✓	
21 Mar 06	Tue			
22 Mar 06	Wed			✓
23 Mar 06	Thu			
24 Mar 06	Fri			
25 Mar 06	Sat	\checkmark		
26 Mar 06	Sun			
27 Mar 06	Mon			
28 Mar 06	Tue			
29 Mar 06	Wed			✓
30 Mar 06	Thu			
31 Mar 06	Fri	✓	✓	

Note:

Shaded area indicates public holiday.

Air – Monitoring of three 1-hour TSP and 24-hour TSP at both CAM1a and CAM2a

Noise - Noise measurements at both CNM1 and CNM2 between 0700 and 1900 on normal weekdays

Expansion of Shek Wu Hui Sewage Treatment Works

Impact Monitoring Programme – April 2006 (Tentative)

Date		Air	Noise	Site Inspection
01-Apr-06	Sat			
02-Apr-06	Sun			
03-Apr-06	Mon			
04-Apr-06	Tue			
05-Apr-06	Wed			
06-Apr-06	Thu	\checkmark	✓	√
07-Apr-06	Fri			
08-Apr-06	Sat			
09-Apr-06	Sun			
10-Apr-06	Mon			
11-Apr-06	Tue			
12-Apr-06	Wed	\checkmark	✓	\checkmark
13-Apr-06	Thu			
14-Apr-06	Fri			
15-Apr-06	Sat			
16-Apr-06	Sun			
17-Apr-06	Mon			
18-Apr-06	Tue	\checkmark	\checkmark	
19-Apr-06	Wed			\checkmark
20-Apr-06	Thu			
21-Apr-06	Fri			
22-Apr-06	Sat			
23-Apr-06	Sun			
24-Apr-06	Mon	\checkmark	\checkmark	
25-Apr-06	Tue			
26-Apr-06	Wed			✓
27-Apr-06	Thu			
28-Apr-06	Fri			
29-Apr-06	Sat	\checkmark		
30-Apr-06	Sun			

Note:

Shaded area indicates public holiday.

Air - Monitoring of three 1-hour TSP and 24-hour TSP at both CAM1a and CAM2a

Noise - Noise measurements at both CNM1 and CNM2 between 0700 and 1900 on normal weekdays

Expansion of Shek Wu Hui Sewage Treatment Works

Impact Monitoring Programme – May 2006 (Tentative)

Date		Air	Noise	Site Inspection
01-May-06	Mon			
02-May-06	Tue			
03-May-06	Wed			✓
04-May-06	Thu	✓	✓	
05-May-06	Fri			
06-May-06	Sat			
07-May-06	Sun			
08-May-06	Mon			
09-May-06	Tue			
10-May-06	Wed	\checkmark	✓	✓
11-May-06	Thu			
12-May-06	Fri			
13-May-06	Sat			
14-May-06	Sun			
15-May-06	Mon			
16-May-06	Tue	\checkmark	✓	
17-May-06	Wed			✓
18-May-06	Thu			
19-May-06	Fri			
20-May-06	Sat			
21-May-06	Sun			
22-May-06	Mon	\checkmark	✓	
23-May-06	Tue			
24-May-06	Wed			✓
25-May-06	Thu			
26-May-06	Fri			
27-May-06	Sat	\checkmark		
28-May-06	Sun			
29-May-06	Mon			
30-May-06	Tue			✓
31-May-06	Wed			

Note:

Shaded area indicates public holiday.

Air - Monitoring of three 1-hour TSP and 24-hour TSP at both CAM1a and CAM2a

Noise - Noise measurements at both CNM1 and CNM2 between 0700 and 1900 on normal weekdays